

FIRST LOOK AT APPLE'S UPCOMING PHOTOS FOR OS X

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MACBOOKS
AND GORGEOUS
APPLE WATCHES
HEADLINE APPLE'S
MARCH EVENT

**POWER
HUNGRY**
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MOST OUT OF
YOUR DEVICE'S
BATTERY

GROUP TEST
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A collection of Apple, Microsoft and other tech news stories.

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POWER HUNGRY

Apple's new power management features are a game-changer for power-hungry devices.

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SHOULD APPLE EXPAND ITS PARTNERSHIP TO THE NEXT?

Apple's partnership with Microsoft is a key factor in its success.

Apple's partnership with Microsoft is a key factor in its success. The partnership has allowed Apple to...
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PRODUCTS

GADGET GUIDE

A collection of new products and their features.

Speck Showflex
A collection of new products and their features.

Apple iPhone 5s
A collection of new products and their features.

Apple iPhone 5c
A collection of new products and their features.

Feature

20 POWER HUNGRY

Whether you have an iOS device, Mac or a third-party gadget, power turns our technology from paperweights into devices that bring joy, ease and productivity to our daily lives. ANTHONY CARUANA takes a look.



APPLICATIONS

MAC GEMS

NEW SOFTWARE FROM THE MACAPP STORE

Mac Gems
A collection of the best Mac apps from the App Store, curated by the experts at Macworld. This app is a must-have for any Mac user looking to discover new software.

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SECRETS

How to choose the best video calling method

Many can be used over the phone or internet, but sometimes a face-to-face interaction is best. BY JAC KROGEL

It's a common sight: a person on a video call, looking at a screen that shows a person's face. But how do you choose the best method for your needs? The answer depends on a variety of factors, including the quality of the connection, the ease of use, and the features available. In this article, we'll explore the different options and help you decide which one is right for you.

FaceTime is a popular choice for many users, especially those who are already familiar with Apple's ecosystem. It offers high-quality video and audio, and it's easy to use. However, it's only available on Apple devices, which may be a limitation for some users. Other options include third-party apps like Skype, Zoom, and Google Hangouts, which offer more flexibility and features, but may require additional setup or a paid subscription.

When choosing a video calling method, consider the following factors:

- Quality:** Look for apps that offer high-resolution video and clear audio.
- Ease of use:** Choose an app that is simple to install and use.
- Features:** Consider whether you need features like screen sharing, chat, or recording.
- Compatibility:** Make sure the app works on the devices you want to use.
- Cost:** Some apps are free, while others require a subscription.

GROUP TEST

Printers

Depending on your home or office needs, the huge range of printers on the market can make a purchasing decision difficult. ADAM TUCKER and a panel of experts

Canon Pixma MG7560
A high-end inkjet printer with a large bed, ideal for home and office use. It offers excellent print quality and a variety of features.

Epson Expression Premium XP-720
A compact inkjet printer with a large bed, offering excellent print quality and a variety of features.

HP Inkjet Pro 6800
A large-format inkjet printer with a wide bed, ideal for professional and business use.

Brother MFC-J4620DW
A multi-function inkjet printer with a large bed, offering excellent print quality and a variety of features.

REVIEWS

First look: Photos for OS X

Apple's new desktop app brings smart navigation and more powerful editing. BY JAC KROGEL

Apple's new Photos app for OS X is a significant update to the company's photo management software. It introduces a new design, improved navigation, and more powerful editing tools. The app is designed to be easy to use and to integrate seamlessly with other Apple services like iCloud and iPhoto. In this review, we'll take a first look at the new app and see how it stacks up against the competition.

Design and Navigation: The new Photos app has a clean, modern design that is easy to navigate. It features a sidebar with tabs for Library, Compare, and Web, and a main area for viewing and editing photos. The interface is intuitive and allows users to find and manage their photos with ease.

Editing Tools: The new Photos app includes a variety of powerful editing tools, including a new "Compare" tab that allows users to view and compare different versions of a photo. It also includes a new "Web" tab that allows users to share photos online. The editing tools are easy to use and provide a wide range of options for customizing your photos.

Integration: The new Photos app is designed to integrate seamlessly with other Apple services. It can automatically import photos from your iPhone, iPad, and other devices, and it can sync photos with your iCloud account. It also integrates with the new iPhoto app, allowing users to view and manage their photos in a single place.

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Not so sure anymore...

Who would have thought the Apple Watch would not be the biggest product to come from Apple's March event? Maybe this was because six months ago Tim Cook already gave us a look at the company's direction. Or maybe it was the wearable's battery life and pricing structure that has turned people off? Maybe it was the MacBook surprise?

I think it is a combination of all three. We knew it was going to be an Apple Watch event and expected the watch to be pricey. Apple told us it would start at US\$349, meaning at least a \$100 increase for Australians, but the reality is truly expensive.

Yes, it is a new product. Yes, it is an impressive looking device with storage for music and photos, a range of customisable options, app-integration, notifications and phone calls and, what appears to be, a beautiful display. However, it is an extension of your iPhone and requires the smartphone for a range of functionality.

Don't get me wrong, there are a number of voices in my head trying to justify the price. It is a device that I desire. But it is a device to reduce the time I spend on my other device, a device I already own.

Apple's other headliner was considerably more exciting. I have

been waiting for Apple to offer a MacBook Air with a Retina display, and while the new MacBook is not an MBA, it offers lightweight portability in an incredibly thin package with coloured options.

This is one step closer to the collaboration between the iPad and the Mac. The MacBook has two ports, one for your headphones and the other to charge and transfer data. The iPad has the same.

USB-C? Not a problem. You have a range of options such as AirDrop, email, Bluetooth, Wi-Fi etc. This is not a professional machine; it's a machine for travel and the couch. If you need to hook it up to an external display, there will be a range of docks and adapters from Apple and third-party manufacturers.

Add a Wi-Fi plus cellular MacBook to its lineup and Apple may have the ultimate, portable device. Of course, this won't happen soon. Apple suggests laptop users tether to an iPhone's data connection, and a move to a cellular Mac may have an impact on a customer's desire to buy a new, larger iPhone.

I may be heading to the Apple Store on 10 April, but it won't be to pre-order a watch.



STAFF PICKS

Favourite release from Apple's March event?



JONATHAN STEWART

MACBOOK

An internal redesign means

the new MacBook is fan-less, features a 67 percent smaller logic board and is powered by terraced battery cells.



MADELEINE SWAIN

RESEARCHKIT

As long as it's used for good not

evil, ResearchKit sounds like it could have a massively positive impact.



TYNAN MCCARTHY

FORCE CLICK

Deep clicks that open certain

program features depending on where you click. Force clicking a date, for instance, opens a calendar entry.



MONIQUE BLAIR

MACBOOK

My favourite was the new

Macbook. Offering a 12in Retina display that's 0.88mm thick and a body 24 percent thinner than the latest MacBook Air.

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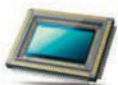
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Blackmagicdesign



Introducing Blackmagic URSA, the world's first user upgradeable 4K digital film camera!

Blackmagic URSA is the world's first high end digital film camera designed to revolutionize workflow on set. Built to handle the ergonomics of large film crews as well as single person use, URSA has everything built in, including a massive 10 inch fold out on set monitor, large user upgradeable Super 35 global shutter 4K image sensor, 12G-SDI and internal dual RAW and ProRes recorders.



Super 35 Size Sensor

URSA is a true professional digital film camera with a 4K sensor, global shutter and an incredible 12 stops of dynamic range. The wide dynamic range blows away regular video cameras or even high end broadcast cameras, so you get dramatically better images that look like true digital film. The extra large Super 35 size allows for creative shallow depth of field shooting plus RAW and ProRes means you get incredible quality!



Dual Recorders

Blackmagic URSA features dual recorders so you never need to stop recording to change media. That's critical if you are shooting an historical event, important interview or where you just cannot stop shooting! Simply load an empty CFast card into the second recorder and when the current card is full, the recording will continue onto the second card, allowing you to change out the full card and keep shooting!



User Upgradeable Sensor

Blackmagic URSA features a modular camera turret that can be removed by unscrewing 4 simple bolts! The camera turret includes the sensor, lens mount and lens control connections and can be upgraded in the future when new types of sensors are developed. This means your next camera will be a fraction of the cost of buying a whole new camera! Choose professional PL mount, popular EF mount and more!



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Say goodbye to bulky on set monitors because you get a massive fold out 10 inch screen built into Blackmagic URSA, making it the world's biggest viewfinder! The screen is super bright and features an ultra wide viewing angle. URSA also includes two extra 5" touch screens on both sides of the camera showing settings such as format, frame rate, shutter angle plus scopes for checking levels, audio and focus!



Blackmagic URSA EF
\$7,949



Blackmagic URSA PL
\$8,609

www.blackmagicdesign.com/au

Lenses and accessories shown are not included

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HAVE YOUR SAY

LETTER OF THE MONTH



CREATING A DIVIDE

Is this the first time Apple has offered more expensive options that offer no technological advantage whatsoever? I'm not an expert in the history of all Apple products so I would genuinely like to know.

For me, this is an uncomfortable lurch by a technology manufacturer into the world of high priced luxury products.

I am not criticising Apple for making a luxury product – the iPad already falls into that category. Yet the iPad felt different somehow. My iPad and the iPad of a multi-millionaire would essentially look the same. Maybe mine would be space grey and his would be white, but that would be about the only noticeable difference. If his happened to be more expensive, the extra costs would only be visible on the inside (more memory, 4G, etc) and essentially only noticeable to him, the user. The iPad in that sense is a little piece of 'affordable' luxury, even if you buy the entry-level model.

The Apple Watch takes a very different approach. Here the extra thousands of dollars spent will internally make no difference (please correct me if I am wrong here). The technology remains the same. It is all about the external – the display of wealth. This is something that has (as far as I am aware) never so explicitly divided Apple consumers before and, for me, as someone who has always admired Apple's philosophy, I now feel a strange sense of embarrassment for the company. I have no problems with excessive displays of wealth. They amuse me mostly, it just doesn't feel at home with Apple.

David

DEVICES FOR DEVICES

We have truly reached the apotheosis of decadence with the Apple Watch. Not only because of the gaudy price (though the Edition is obscene) but because we are now buying devices to save us from spending too much time with our other devices — as more than one reviewer has said. But don't get me wrong. I still want one.

DRJ



JUST PLUG IT IN

I charge my phone every night, right along with my iPad. The Apple Watch will just be included with that nightly charging routine. Do I wish it could hold a charge all week? Even better, it was kinetic? Sure.

Is charging nightly a deal breaker? Hardly.

Shon

USB-C, NOT FOR ME

I hope we won't see USB-C in the Retina MacBook Pros. I can't function without a USB port and it would be ludicrous to use an adapter to be able connect a USB device and charge at the same time. Besides, you'd end up spending \$160 just so you could have those adapters at home and at work or for travel. It's a good thing they haven't done that to the MacBook Pros. That would be a huge loss in functionality.



To Apple, that single USB-C port for all functions may seem like a minor sacrifice, but it makes the MacBook a lot less functional. I can't stand the idea of sacrificing function for form; I prefer to avoid a loss of functionality.

Originally, I didn't even like the Retina MacBook Pros because they lack FireWire, Ethernet and optical drives, though I can see going without those three things. But I draw the line at the combined-function USB-C port. That's just unacceptable.

Ben

DANGEROUS FOR YOUR MACBOOK

To me the big loss is MagSafe. I can live with connecting wirelessly to most things and breaking out a dongle when a wired connection is the only option. That's an acceptable trade-off for ultra-portability. But the MagSafe was genius and so useful in keeping tripped over cables from resulting in a smashed notebook. That alone would make me stick with a MacBook Air for portability and safety.

Bryan

WAIT AND SEE

What nobody has said is that USB is an open standard. No chips for Apple to require in the cables or licensing fees. So, in a month you will be able to buy all these USB-C adapters for a fraction of Apple's prices.

Orlando

ONE OF MANY

Many commentators seem to forget that this is just one of a range of laptops that Apple offers. This new MacBook is in addition to, not a replacement for, any existing Apple laptop. If you need Thunderbolt, or prefer MagSafe, get one of the other options.

The other thing that I haven't seen mentioned is that this USB-C approach would make creating a docking station for the new MacBook really easy so it would be theoretically possible to have your video, USB, Ethernet and even MagSafe connectors all conveniently at hand. Thunderbolt 2 may even be possible but would probably require additional electronics, not to mention licensing cost.

John

■ Letters should be emailed to editor@macworld.com.au with a subject header of 'Letter to the Editor' or by post to: Macworld Australia Mailbox, 142 Dorcas Street, South Melbourne, Victoria, 3205. Please include your full name and address, including state or territory.

■ Comments on stories or Forum posts on www.macworld.com.au are also eligible for the prize.

■ We reserve the right to edit letters and probably will.

■ Letters of fewer than 200 words are given preference.



This month's prize to the *Macworld Australia* reader who has submitted what we think is the most interesting letter is an 8ware 6-Port Desktop USB Charging Station, worth \$54.95, from Anyware.

The 8ware charging station will clean up your charging habits by offering three 2.4Amp USB ports and three 1.0Amp USB ports in the one place and from the one power point.

With current, voltage, short circuit and temperature protections, it is ideal for the home, office or travel.

www.anyware.com.au

TERMS AND CONDITIONS. Letter of the month 1. Instructions on how to enter form part of these conditions of entry. 2. To enter send tips or queries to editor@macworld.com.au with a subject header of "Letter to the Editor". Entries will be judged by the editorial staff of *Macworld Australia*. The judges' decision in relation to any aspect of the competition is final and binding on every person who enters. No correspondence will be entered into. Chance plays no part in determining the winner(s). Each entry will be individually judged based on its degree of interest. 4. Employees, their immediate families and agencies associated with this competition are not permitted to enter. 5. The Promoter accepts no responsibility for late or misdirected entries. 6. The best entry/entries as determined by the judges will win the prize(s). 7. The Promoter is neither responsible nor liable for any change in the value of the prize occurring between the publish date and the date the prize(s) is claimed. 8. The prize(s) is not transferable and will not be exchanged for cash. 9. The winner(s) will be notified by email. 10. All entries become the property of the Promoter. 11. The collection, use and disclosure of personal information provided in connection with this competition is governed by the Privacy Notice. 12. The Promoter is Niche Media Pty Ltd of 142 Dorcas Street, South Melbourne, Victoria 3205 Ph 03 9948 4900, (ABN 13 064 613 529).

HOT STUFF

A selection of Apple, Mac and iOS news from Macworld.com.au



APPLE OFFERS FREE FIXES FOR MACBOOK PROS WITH VIDEO PROBLEMS

MacBook Pro owners experiencing video problems are eligible for a free fix from Apple now.

Apple says a "small percentage" of MacBook Pros sold between February 2011 and December 2013 are experiencing issues with distorted video (or none at all) and out-of-the-blue system restarts. The problems affect 15in and 17in MacBook Pros produced in 2011 and 15in Retina MacBook Pros produced from mid-2012 to early 2013.

If you're experiencing any of the above issues, check to see if your MacBook Pro matches one of the models by using Apple's 'check your coverage' tool (www.apple.com/au/support/macbookpro-videoissues). Then back up your data, pack up your MacBook and take the computer to an Apple Store or a repair centre authorised by Apple.

MacBook Pro owners have complained about video issues for years now, creating a Change.org petition that has racked up more than 38,000 signatures in support. Some MacBook owners even filed a class-action suit against Apple, alleging that problems with the AMD graphics chips – specifically the lead-free solder that connects the GPU to the MacBook's

logic board – were responsible for video problems and system failures.

Now those affected finally have a free fix. You have until 27 February 2016, or three years from the date of purchase, to redeem the offer.

APPLE PLANS TWO EUROPEAN DATA CENTRES RUNNING ON RENEWABLE ENERGY

Apple plans to open two European data centres running on renewable energy in 2017, following similar moves by Google and Facebook in the region.

The new data centres will host a number of Apple services for European customers, including the iTunes Store, App Store, iMessage text messaging service, Apple Maps and Siri, its voice-controlled personal assistant. By hosting the data within the European Union, Apple could avoid the need to export EU users' data to the US or other data protection regimes, a sensitive issue as EU legislators discuss renewing the bloc's data protection regime.

Apple plans to spend a total of US\$1.7 billion (AU\$2.7 billion) on the two data centres, which will each cover around 166,000 square metres.

Apple is counting on wind power, and plans to site its new facilities in two of Europe's windiest countries, Ireland and Denmark.

The Danish data centre will be in Viborg in central Jutland, and will feed waste heat into the district heating system. Apple will build no new generating capacity there initially, but the data centre will be connected directly to the country's power grid, which already obtains 28 percent of its electricity from the wind, according to the Danish Wind Industry Association.

The other data centre will be in Athenry, Ireland, where Apple plans to reclaim land currently used for commercial forestry, and to help restore a patch of native woodland in Roscommon, some 70 kilometres from the data centre.

Apple said it will work with local partners to develop additional wind or other renewable energy generation projects in the future.

APPLE ORDERED TO PAY AFTER LOSING PATENT CASE

Apple has been ordered to pay US\$532.9 million after a US jury found that its iTunes software infringed three patents owned by Smartflash, a Texas-based technology licensing company.

That figure is less than the US\$852 million that Smartflash was seeking, but is still a blow to Apple. Smartflash said it was entitled to a percentage of sales from Apple devices like Mac computers, iPhones and iPads that were used to access iTunes.

Apple will appeal the verdict and called for patent reform to curtail lawsuits from companies that don't manufacture products themselves.



"We refused to pay off this company for the ideas our employees spent years innovating, and unfortunately we have been left with no choice but to take this fight up through the court system," Apple said in a statement. Apple didn't immediately reply to a request for further comment.

APPLE MAKES PROGRESS IN CUTTING USE OF CONFLICT MINERALS

Apple is making progress in eliminating the use of materials that are linked to militant groups in the Democratic Republic of the Congo and neighbouring countries.

Since 2012 the US Securities and Exchange Commission has required companies that use tantalum, tin, tungsten and gold in their products to issue a yearly report disclosing whether the minerals were obtained from Central African nations. In some cases, the profits from selling those materials, which have been given the name 'conflict minerals', can benefit warlords, rebels and other criminal organisations.

Apple has made gains in its efforts to use only conflict-free minerals in its

products, according to a filing released by the SEC. Of the 225 companies Apple uses, 135 are conflict-free and 64 have started the audit process. The remaining 26 companies must begin the audit or face getting booted from Apple's supply chain. Last year Apple stopped working with three refiners and smelters that refused to conduct an audit.

Apple works with 24 refiners or smelters from Central Africa. Of those, 21 suppliers use conflict-free minerals, one has closed and another is readying for an audit. The remaining refiner hasn't undergone an audit and is being removed from Apple's supply chain.

APPLE WANTS ITS CARS IN PRODUCTION BY 2020, REPORT SAYS

For a consumer electronics company that won't even put a TV on the market, an Apple car sounds unlikely on paper. But mounting evidence says Apple is gearing up for some type of automotive effort, and recently we learned that Apple is targeting 2020 for a fully-fledged car.

Referencing "people with knowledge of the matter," *Bloomberg* reported that Apple wants to put an electric vehicle into production within the next five years. 2020 is a deliciously specific launch date and, at first glance, this sounds like a long way away. But once you factor in all the hurdles Apple would have to cross, five years is actually an aggressive time-frame.

APPLE CAR: CASES FOR AND AGAINST

On one hand, Apple has a fiduciary responsibility to its shareholders to innovate. It's the most successful business in the history of the world, and it just can't mind its knitting, so to speak, by limiting its product line to mobile gear that weighs under one kilogram. Transitioning to truly mobile gear – cars – is arguably a key strategic manoeuvre that will keep Apple relevant once iPad life cycles stagnate as badly as PCs, and every fanboy and fangirl has bought his or her Apple Watch.

On the flipside, wow, we're talking about a car. Cars have horribly long life cycles, and part of Apple's success lies in selling you a new thing every year or two. Cars also have poor profit margins (at least on the low end) and can't be sold on two-year contracts with a bunch of money-making service plans attached.

Or who knows: perhaps that's the innovation Apple has in store. Traditional car companies already sell maintenance plans. Perhaps Apple is working on a magic dust plan that's just too good to turn down.

Regardless, for a company that's so far shown no interest in the big-screen TV market (ostensibly a natural fit), and a somewhat late-to-the-party approach to the wearables market, the prospect of an Apple car sounds completely far out. And the possibility of a launch in five years' time challenges logic and reason even further. 🐼



HOT STUFF

A selection of Apple, Mac and iOS news from Macworld.com.au



APPLE'S AWESOME AUTUMN

MARCH EVENT BRINGS APPLE WATCH LAUNCH DETAILS, NEW MACBOOKS AND RESEARCHKIT.

Apple CEO Tim Cook took to the stage in March to reveal further details on the Apple Watch, including shipping dates and pricing, a new MacBook and ResearchKit, to a packed house at the Yerba Buena Centre in San Francisco.

Apple also had a series of numbers to share. Cook says the company has sold its 700 millionth iPhone, with a significant 49 percent year-on-year growth last quarter – a number twice that of the rest of the industry.

Apple Pay may be only in the US currently, but Apple is also making progress in its payment sector. The service now supports 2500 US banks, up from six banks at launch, and 700 thousand store locations – triple the number it was at launch.

CarPlay? All is looking swell for Apple's in-car entertainment system according to Cook, with "every major car brand" committing to delivering CarPlay, with 40 new models to ship in 2015.

MACBOOK

Apple has a new MacBook to share with the world, and it has broken a couple of the

company's records. The new MacBook is 24 percent thinner than the previous 11in MacBook Air at 13.1mm at its thickest point and is the lightest Mac ever.

The new laptop has a 12in Retina display with an all-metal enclosure, integrated antennas and a new, redesigned, full-size keyboard. Apple has done away with the standard scissor mechanism beneath each key for a butterfly mechanism that Apple believes is four times more stable. The lights under the keys have changed as well. Each individual key has its own LED light.

The Retina display is protected by edge-to-edge glass, the panel measures 0.88mm, making it the thinnest Mac display ever and the screen packs in a 2304 x 1440 resolution.

The trackpad has seen an overhaul as well. Apple has taken away the usual trackpad-flex you feel when you click in different areas of the pad. The Force Touch trackpad has force sensors and a haptic engine, similar to the Apple Watch, which means the trackpad will feel the same in all corners of the pad.

"Apple has reinvented the notebook with the new MacBook, and at just 920g and 13.1mm, it's the thinnest and lightest Mac ever," said Apple's senior vice president of Worldwide Marketing, Philip Schiller. "Every component of the MacBook reveals a new innovation. From its fanless design, ultra-thin Retina display and full-size keyboard

that's 34 percent thinner, to its all-new Force Touch trackpad, versatile USB-C port and breakthrough terraced battery design, the new MacBook is the future of the notebook."

The MacBook has a new logic board that's 67 percent smaller than previous versions and a nine-hour battery life for web browsing, with an extra hour for iTunes movie playback.

The MacBook comes in gold, silver and space grey, and is available from 10 April with a 1.1GHz chip, Intel HD graphics 5300, 8GB memory and 256GB SSD for \$1799. Users will be able to bump up the processor and double the storage for \$2199.

The MacBook Air has also been updated with fifth-generation processors and the 13in MacBook Pro has received faster processors, updated flash and more battery life, as well as the same Force Touch trackpad as in the 12in MacBook.

"Today the popular 13in MacBook Pro with Retina display, 11in MacBook Air and 13in MacBook Air all received significant upgrades," Schiller at Apple's March event. "The 13in MacBook Pro has been updated with the latest processors, more powerful graphics, faster flash, longer battery life and the all-new Force Touch trackpad. We're also bringing the latest processors and graphics, and faster Thunderbolt 2 to the 11in and 13in MacBook Air, as well as up to two times faster flash to the 13in MacBook Air."

All are shipping now.

APPLE WATCH

The Apple Watch will arrive on 24 April, with a pre-order date set from 10 April. The March event revealed further details and more clarity about Apple's smartwatch.

With Glances, the Apple Watch allows users to check the things they frequently seek. Swiping from the bottom of the display enables users to see weather data and calendar information, control music and check their current heart rate.



For communications, the taptic engine taps your wrist when a message is received, a built-in speaker and mic allow users to make phone calls, and full emails can be read. Two Apple Watch users can communicate via Digital Touch, either sending a sketch or tapping to get the attention of the other.

"Apple Watch begins a new chapter in the way we relate to technology and we think our customers are going to love it," said Cook. "We can't wait for people to start wearing Apple Watch to easily access information that matters, to interact with the world, and to live a better day by being more aware of their daily activity than ever before."

Aided by Christy Turlington Burns, one of *Time* magazine's Top 100 most influential people, a model, mother, adviser to Harvard School of Public Health and founder of the Every Mother Counts charity, Apple showed off the features for fitness-focused individuals. The Apple Watch provides real-time metrics such as calories burned, distance and time.

The Apple Watch is also handy in the other parts of your life – you can see what's trending on Twitter, your airline boarding pass, your calendar and sports scores. Users can communicate with their watch via Siri and pay for goods and services with Apple Pay.

The Apple Watch features both Bluetooth and Wi-Fi, meaning users do not have to be within Bluetooth range of their iPhone when at home to use its features.

The Apple Watch will have its own iPhone app, containing the Apple Watch

App Store. All apps are downloaded and controlled via an iPhone with iOS 8.2, which is available today.

The battery life will reach 18 hours, according to Cook, and is recharged via a magnetic charger that snaps onto the back of the watch.

The watch ships in three collections, in either 38mm or 42mm in size. The cheapest, the Apple Watch Sport, features anodised aluminium, silver or space grey with a colourful fluoroelastomer band. The Watch Sport is designed to withstand dings and scratches and starts at \$499.

The \$799 Apple Watch can ship with a sport band, Milanese loop or link bracelet and comes in either stainless steel traditional (silver) or space black.

The most expensive in the range is the Apple Watch Edition, a wearable device that starts at \$14,000. The watch is made from solid 18-carat gold, along with the clasps and buckles.

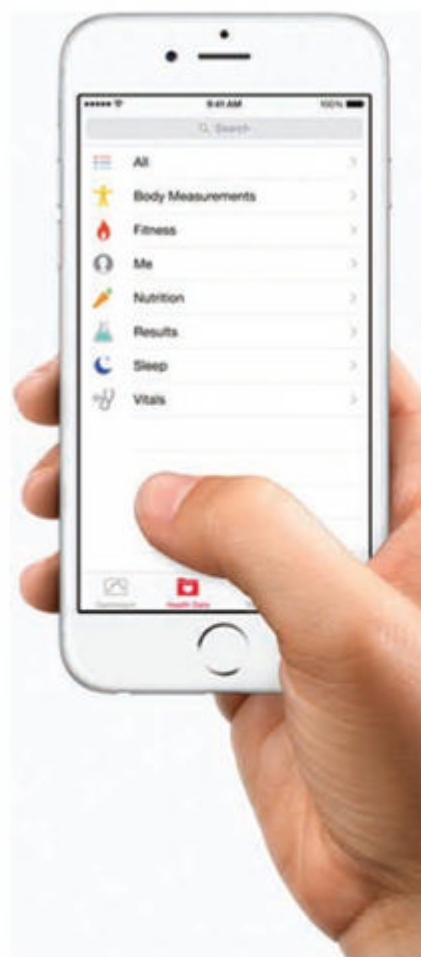
The Apple Watch will require an iPhone 5, 5c, 5s, 6 or 6 Plus running iOS 8.2. Pre-orders begin from 10 April.

RESEARCHKIT

Apple is turning its eye to medical research with the open source ResearchKit, a new way for research studies to connect with people via the iPhone. The iOS app platform allows all iPhone users to aid in medical research with their HealthKit data, and Apple already has five apps available covering research into such areas as Parkinson's, breast cancer, cardiovascular disease, asthma and diabetes.

"iOS apps already help millions of customers track and improve their health. With hundreds of millions of iPhones in use around the world, we saw an opportunity for Apple to have an even greater impact by empowering people to participate in and contribute to medical research," said Apple's senior vice president of Operations, Jeff Williams. "ResearchKit gives the scientific community access to a diverse, global population and more ways to collect data than ever before."

Addressing privacy concerns, Apple confirmed it will not see any collected data and the user is able to decide how and if they participate and how to share any information collected. ResearchKit itself will launch in April.





HANDS ON: APPLE WATCH

BY SUSIE OCHS

I had a \$24,000 Apple Watch Edition strapped to my wrist. Rose gold, 38mm. Rose grey strap that felt like butter, with a modern buckle also in solid 18-carat gold. It was beautiful. But as luxe as the materials are, my hands-on demo time with the Apple Watch made me confident that I can go with the entry-level Apple Watch Sport and be just as happy.

Why? It's the software, silly! The Apple Watch's apps, glances and notifications are so easy to use and well-thought-out that once I started tapping, pressing and scrolling around the tiny display, I quickly forgot what materials were in the case and strap.

ATTENTION TO DETAIL

The Apple Watch has so many delightful little details, and I'm not even talking about how the clasps on the gold Apple Watch Edition's bands are also made of gold. Again, it's the software. Scrolling around the tiny screen is smooth, and even though the home screen's tiny app bubbles look like you'd need to tap them with fingers the size of Q-Tips, I found them easy to hit.

If you nudge an app's icon toward the centre, it bulges a little bigger, and you can tap it with more ease, or twist the digital crown to open it. The animation from home screen to app even varies in speed based on how quickly or slowly you twist the digital crown.

Using the Digital Touch feature was a 'wow' moment too. Press the button below the watch's digital crown to bring up your favourite contacts – from this screen you can call them, send a message or enter Digital Touch if they also have an Apple Watch. Then you can draw an image with your finger, tap out a pattern that will be tapped on their wrist, or even send your heartbeat.

QUESTIONS REMAIN

Apple is good about not overestimating battery life, and from what I saw in my demo, the suggested 18 hours seem reasonable. The watch is designed to get you the info you want quickly, both in how the information is presented and how easy it is to move between it. You probably won't be staring at it for huge stretches of time unless you're trying to read all your email or something.

This means that just one swipe up and a half-dozen swipes right-to-left can show you a lot of information, and pressing any of the single-screen glances sends you to a more fleshed-out experience in the full notification or app. Notifications can be seen by swiping down the clock face from the top. Apple did a lot of work to make using a smartwatch with so many features this simple.

But not every feature could really be tested in Apple's demo room. It'll be interesting to see if the watch is a good workout partner even if you don't have your paired iPhone with you. The watch's accelerometer can count your steps as you run, but that uses maths to extrapolate your distance. If you bring an iPhone, your whole route is tracked with the iPhone's

GPS. The watch has iPod shuffle-like storage to play some songs during your run, as long as you have Bluetooth headphones.

WHY I'M BUYING ONE

It's striking that the Apple Watch's best features solve a problem I didn't have before I had an iPhone. The problem is: I look at my iPhone too much. Throwing more technology at that problem seems frivolous, but if the right balance of notifications and glances actually succeeds to sift the signal from the noise? If it can reduce the number of times I unlock my iPhone to do a simple little thing like reply to a text, only to fritter away time on three or four apps? That could change my game.

HANDS ON: 12IN MACBOOK

BY SUSIE OCHS

What's lighter than Air? The all-new MacBook. Apple's newest laptop is lighter and thinner than the MacBook Air, and sports a gorgeous Retina display like the top-of-the-line MacBook Pros. But this isn't an Air or a Pro. It's just a MacBook, and yet... it changes everything.

The first thing I noticed during my hands-on time is the MacBook's screen. The colours are bright and vivid, and the 2304 x 1440 resolution shows all the detail you're used to seeing on a Retina display.

The laptop is incredibly thin and light, but keyboard real estate doesn't suffer. Apple put a full-size keyboard on the new MacBook, and even decreased the space between the keys a little bit – the keys themselves are



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actually 17 percent bigger than those on current Mac laptops. My fingers didn't feel cramped like they do when using a keyboard that's sized for the iPad, for example.

Apple replaced the scissor-switch key mechanism deployed in current MacBooks with a new kind of switch the company calls the butterfly mechanism. With this new hardware, your keys go straight up and down no matter where on the key you press. The keyboard is backlit, but each key gets its own LED light, so they'll all have the same brightness level.

Speaking of LEDs, the Apple logo on the MacBook doesn't light up. I know, I'm a little bummed too. But the new MacBook is still capable of turning heads since it's the first Apple laptop available in gold – you know, to match the gold-toned iPad and iPhone.

FORCE TRACKPAD

The MacBook's trackpad has some cool advancements too. The trackpad on existing Apple laptops hinges at the top, so a physical click at the top of the trackpad feels different than a click at the bottom. But on the new MacBook, there's no hinge, so no matter where you click, it feels the same.

OK, this change sounds pretty minor, but the hinge-less design enables the trackpad to have a new Force Click gesture. You can tap or click something to select it as normal, but when you push down harder on the fully pressure-sensitive trackpad, you initiate a Force Click, which is a new shortcut to app-specific tasks.

JUST ONE PORT

Think of all the ports you've used on your Apple laptops through the years... those are all gone. The new MacBook doesn't even have an SD card slot. It's only got one USB-C port. Or two ports if you include your headphones.

This MacBook is meant to fly solo. Unencumbered by wires. I use my trusty 13in MacBook Air as my everyday machine, and almost all of its ports see daily use. I connect to a Thunderbolt Display, a USB hard drive for Time Machine and even a four-port USB hub to keep all my gadgets charged. The MacBook is better suited for people who want the lightest machine possible – and who can mostly lean on wireless connection methods like AirPlay, AirDrop, Bluetooth and Wi-Fi. Need more ports? Look to the other machines. (Or perhaps a third-party dock.)

HANDS-ON IMPRESSIONS

With a great keyboard, a beautiful screen and a time-saving trackpad, the new MacBook has a lot going for it. Some may find it a struggle to adapt (no pun intended) to a single-port lifestyle, but if that doesn't sound like a big deal, your

reward is a slick, golden laptop that only weighs 0.92kg. As much as I think I need all the ports on my 1.35kg MacBook Air, I could probably deal with adapters to get the weight down that far. My head says no, but my back and shoulders say yes.

WHAT IS USB-C?

BY GLENN FLEISHMAN

With the new 12in MacBook, Apple has gone all in for all-in-one, using USB-C to provide power, display output and USB connections. Thunderbolt is gone. The SD card slot is gone as well. And the MagSafe component of the power connection has disappeared into very thin Air – I mean, thin MacBook.

Apple says that USB-C adapters can provide HDMI, DisplayPort, VGA, Ethernet and USB 3.1 support, and can both power a computer and send power to attached peripherals. Notably, Ethernet and DisplayPort options aren't included in the current USB-C accessories list at the Apple Store.

But Thunderbolt is the really big loser in the new 12in MacBook: USB-C can't support Thunderbolt devices.

In the pursuit of slimness, sleekness and simplicity – the same goal that brought us Lightning – Apple has seemingly done with Thunderbolt what it once did with FireWire. But is USB-C a worthwhile shift for users? Well, all interfaces are compromises in one way or another, and Apple believes USB-C meets more customers' needs, even as the new interface throws some people off a cliff.

The upside is compatibility, and thus lower costs and more options. USB-C is also a unifying and universal standard that doesn't involve a single company acting as a licensing gatekeeper, the way Apple protects Lightning cables and adapters. USB-C would seem to have a lot to offer, but first we have to get over the hump of newness.



CHANGES

Thunderbolt was essentially too expensive to implement on inexpensive devices. It also has licensing rules that deterred some manufacturers. The USB-C adapter format avoids just these kinds of roadblocks.


USB-C only debuted last September, and was clearly designed in part to replicate the advantages of Apple's Lightning connectors. It's slim and reversible. Apple's flavour has a raw data rate of 5Gbps, and passes 29 watts of charge from the included power adapter.

Unlike the Dock-to-Lightning transition, the situation is different with the MacBook, as you won't lose a lot of sunk costs if you're shifting from one Mac laptop to the MacBook. The only interface types you

lose are MagSafe and Thunderbolt. If you need Thunderbolt devices, this isn't the computer for you. Your MagSafe adapters, meanwhile, can clearly continue to be used with your older computer.

USB-C allows bidirectional charging, which changes the cable equation. The new computer ships with just a USB-C charging cable (two metres, \$45 sold separately) and a 29-watt power adapter with a USB Type A jack (\$69 separately). The charger can power an iPhone or iPad, and ostensibly the USB-C charging cable could be driven by any USB Type A jack – although a five-watt or 10-watt charger or a 10-watt or 12-watt car adapter will charge it quite slowly. (I was unable to get confirmation on that latter point.)

With a USB-C adapter that splits into multiple interface types, you can charge devices over its USB parts just as if they were part of the computer's hardware. Apple is offering three adapters to start with: a \$29 USB-C to USB 3.1 Type A port, into which a regular Type A connector can fit; and \$119 A/V adapters, one for VGA and one for HDMI, both of which also sport USB-C charging and USB Type A ports. (It was unclear at time of writing if that USB-C charging port can be chained into more adapters, but it seems very likely based on the spec.)

Apple isn't offering gigabit Ethernet or DisplayPort adapters in its initial foray, but these adapters should be available soon from third parties. 



Fishing at Marion Bay

This month's winner comes from a small town at the southern tip of the Yorke Peninsula.



Taken by Andre Mackowiak in Marion Bay, South Australia, this serene picture captures the beautiful coast.

"I had planned a three-day fishing trip with my son, Alex, and a good mate, Karl, at Marion Bay," says Mackowiak.

"On the first day, we ended up travelling a short distance up the road from Marion Bay and stumbled across a dirt road that took us to the beach front you see in the photo. We spent a good portion of the day 'til sunset before heading back to our accommodation."

A regular fisherman, Mackowiak snapped the successful day on his iPod in a protective, waterproof container.

"We caught a few strong fish, but the

photo tells it like it is. It was just nice to have your feet in the water while throwing the line in and enjoying the coast of South Australia."

After taking a series of photos, Mackowiak gave his favourite a little touch-up.

"Hardly any editing was done, as I'm in the habit of taking three or four shots of the same scene, picking the best one and then running it through an app – in this case, PhotoToaster using one of the predefined settings. It was all over in a matter of minutes."

The ability to change apps on a camera in your pocket makes the iPhone a fantastic asset, Mackowiak believes.

"Truth be told, I have three digital cameras that are gathering dust. The portability and instant access to apps that can add depth and flair is amazing, which means the backyard novice can now look like the professional photographer's apprentice. Disadvantages? I can't think of any, apps keep getting better and so does the tech."

Our monthly winner also keeps a few things in mind when he takes his photos, tips that may make a positive difference for other iSnappers.

"There is the old rule of splitting the frame in thirds and I also keep in mind the dawn and dusk rule, as they provide the best opportunities to capture a shot with natural light that gives great depth."

In iSnap we're on the lookout for some of the best photographs being taken with iOS devices. Submit your favourites to macworld@macworld.com.au for your chance to be featured in the online iSnap gallery (www.macworld.com.au/isnap). Each month's winner will win a prize and appear on this page!

This month's prize is a Mount XL and a tabFlex from iStabilizer.

Secure your iPad, iPad mini or other tablet to virtually any surface with the iStabilizer tabFlex. Secure your tablet to a car headrest, tree branch, pole, fence, tripod, desk, kitchen countertop or anything else you can think of. It's a small accessory that can make a huge impact on how you use your tablet.

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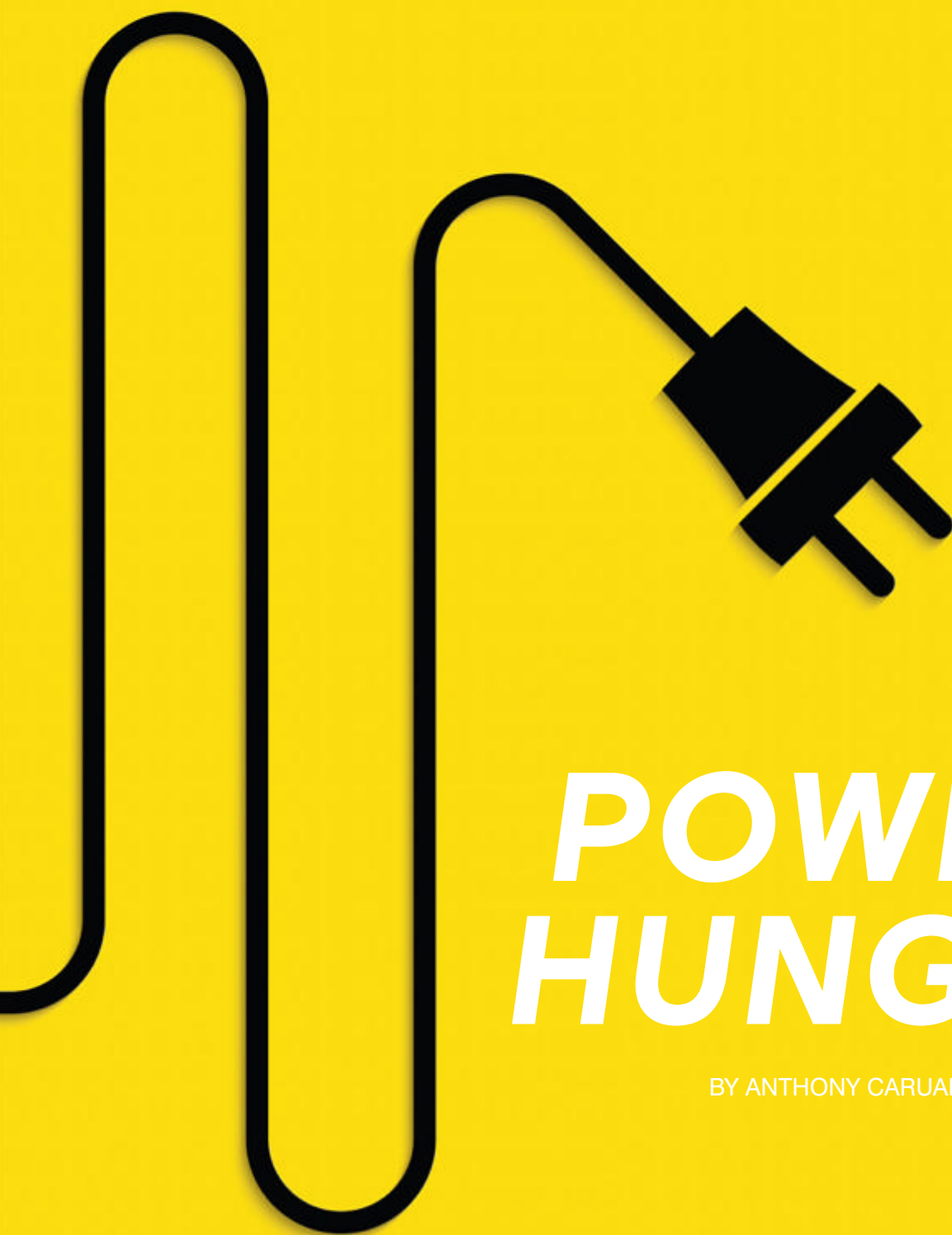
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POWER HUNGRY

BY ANTHONY CARUANA

One of the consequences of Moore's Law – that the number of transistors in a dense integrated circuit doubles approximately every two years – is that we can get a lot more computing bang for buck whenever we upgrade our Macs, iPads, iPods and iPhones. In concert with those processor upgrades, there have been advances in screen technology, so that we get higher resolutions with more colours with each hardware iteration, as well as more powerful and faster networking.

But have you noticed that battery life hasn't really kept pace? Think about that shiny new MacBook Pro you have or have been eyeing off in the store. While today's model offers up to nine hours of life, that's only four times more than the machine I bought 10 years ago. If you think about it in Moore's Law's terms – the two hours I managed back in 2005 should have doubled every couple of years. So, the battery life should be closer to 64 hours.

The trouble is that all those new features we take for granted – like brighter, high-resolution displays, always-on wireless communications, faster processors and more powerful applications – mean that battery technology is constantly in catch-up mode.

BATTERY TECH UPGRADE

Battery technology has moved forward. We've moved from nickel-cadmium cells to nickel-metal hydride to lithium-ion through to the lithium polymer batteries we see today. Each of those iterations has delivered greater capacity with less weight. If you have any doubt about that, think back to the earliest mobile phones. Those cases we had to carry with the phone weren't for communication gear – they were the battery. And you were lucky if they lasted a workday.

Today's lithium polymer batteries have made a mountain of difference to the hardware we use. The polymer component of these batteries means that they can be moulded into different shapes to fit the hardware and not the other way around. As a result, our devices are thinner and lighter.



Bigger doesn't mean longer. Apple's 15in Retina MacBook Pro offers an eight-hour battery, while the 13in model provides an extra hour.

But what's next? How are we going to keep powering our devices for a reasonable amount of time if the technology is moving more slowly than our capacity to churn through the power?

Now that Bill Gates has largely severed his ties to Microsoft, he has turned his gaze upon other pursuits. One of those is investing in interesting start-ups such as the invention by Don Sadoway, a professor of materials chemistry at MIT (Massachusetts Institute of Technology) and founder of Ambri.

Sadoway's invention is a battery that uses molten antimony and molten magnesium separated by an electrolyte. At this stage, the technology is focused on applications like storing energy for off-grid power generation, such as solar energy. But it's important to note that this sort of left-field thinking is where innovations, rather than incremental improvements, come from.

While it may not be practical to use liquid fuels in today's portable devices, it may become possible to use those materials with some sort of polymer or other compound to create a gel-like substance that produces energy.

With the push towards wearable technologies such as the Apple Watch and myriad fitness trackers available, creating small, energy-dense batteries continues to be a challenge. Imprint Energy has developed a zinc-based rechargeable

battery technology it calls ZincPoly. It was developed by the company's founders, Brooks Kincaid and Christine Ho, at the University of California, Berkeley.

Imprint's batteries are thin – about as thin as a piece of paper – and flexible so that they can be moulded easily.

Even though these new innovations are exciting, there's still life in lithium-ion batteries. Prieto Battery is making a lithium-ion battery that it claims can charge in five minutes and last for five times longer than the standard lithium-ion batteries by using nanotechnology to develop tiny copper nanowires that make up the negative pole of the battery. The electrolyte is made of a solid polymer.

Similarly, Amprius is using research from Stanford University's Yi Cui to develop lithium-ion batteries that use a nanostructured silicon material for the anode or negative pole.

It's interesting that researchers and engineers are able to still drive innovation and get more out of existing technologies. For example, researchers at the University of Illinois have developed a new lithium-ion battery technology that they claim is 2000 times more powerful than comparable batteries.

This new technology will either allow wireless devices to transmit 30 times further than today at the same size or be one-thirtieth their current size for the same power output.



Thinner and longer. Apple's MacBook Air offers nine hours of battery life for the 11in models and 12 hours for the 13in models.

A NO-BATTERY FUTURE?

Battery technologies rely on chemical reactions that produce electrical power. They also rely on being able to apply power back into the battery, so that the reaction is reversed and the materials can be used again. That's what happens when you recharge a battery. You're simply reversing a chemical reaction that produces electricity.

But what if the iPhone or MacBook of 2025 didn't contain a battery at all?

Any student that has completed some electronics in a high school science class will have heard about capacitors. Capacitors are electronic devices that store energy electrostatically in an electric field. Rather than converting chemical energy into electrical energy like batteries, they hold electrical energy.

The interesting thing about capacitors is that they can be recharged very quickly. Unlike batteries that require the reversal of a chemical reaction, capacitors just need a bunch of electrons pumped into them. So, whereas a battery can take hours to charge, a capacitor can be recharged in minutes or seconds.

The thing about power is that no matter how good the battery in your device is, eventually, you'll need to charge it. The good news is that charging your MacBook Air, MacBook Pro, iPad, iPod or iPhone won't mean scrounging around the back of a café, looking for an unused power outlet.

IN THE CAR

For the car, there are a couple of different charging options available to you.

First, there are power inverters that allow you to plug into the cigarette lighter



Can of energy. It may not give you wings, but Waeco's 150W CanSize Inverter fits in your cup holder.



Time travel. Think Geek's Flux Capacitor adds a little flare to your iOS charging.

in your car. They change the 12-volt DC supply from your car into the 240-volt AC power you need to charge or run your gear.

There are literally dozens of different models to choose from. Assuming you're buying from a reputable source and recognise or trust the brand or seller, there are really two main things to consider. The number and needs of the devices you plan to connect, and the size of the device.

A trip to many electronic retailers will reveal several choices, ranging from units that you'll need to stash on the floor to others that will fit into the car's cup-holders.

For example, the Waeco 150W CanSize Inverter (\$59; www.harveynorman.com.au) can deliver 150 watts of juice and fits into your car's cup-holder. It delivers enough power to run most MacBook Pros from the standard power outlet on the side and your iPad or iPhone from the USB port on the top.

The Powertech 150W Can-Sized Power Inverter (\$44.95; www.jaycar.com.au) offers the same functionality in a similar form factor.

If your needs are a little more demanding, then something like the 8ZED 12V 300W Power Inverter (\$143; www.invertershop.com.au) will allow you to connect more power hungry devices. Like many other inverters, it boasts several important safety features, such as automatic shutdown if the inverter exceeds 65 degrees Celsius or if your car battery's voltage falls below 10 volts.

If you only need to charge USB devices in the car, then there are dozens of USB chargers that will utilise your car's cigarette lighter. But if you want to stand

out, then we'd suggest a trip over to Think Geek for its Flux Capacitor (US\$24.99; www.thinkgeek.com).

Unlike the one Doc and Marty used in the *Back to the Future* movies, this one won't drain 1.21 gigawatts of power. It will charge a pair of USB devices and deliver a nifty little light show while delivering the juice to your portable devices. Note that you may need to use a freight forwarder to get this shipped to Australasia.

IPHONE POWER

It used to be that you needed to visit a speciality accessories store to find an external battery pack for your iPhone; now you can find them just about everywhere – including vending machines at train stations, shopping centres and airports.

Although an external battery pack may look like a simple device, it's really a complex piece of engineering. It needs to deliver its charge to your precious device at a rate that won't cause any problems such as overheating.

If you need the extra power to get through a day and want to protect or decorate your iPhone, then a battery case may fit the bill.

Mophie has been making battery cases for the iPhone for some time. Its new iPhone 6 case combines a protective case with a 2750mAh battery that will charge the internal 1810mAh one a couple of times.

If you don't want a case, then an external battery pack may be more suitable.



Portable power. Mophie has a range of battery cases for the iPhone.

Our suggestion is to look for a charging accessory that will be able to deliver enough juice to recharge your iPhone a couple of times or an iPad. Although the iPhone 6 has an 1810mAh battery, the iPad Air 2 boasts a huge 7340mAh tank with the iPad mini sitting in the middle at 6350mAh.

Depending on your needs, Kogan (kogan.com) sells charging banks starting at 4500mAh for \$16 going up to 20,000mAh of power for \$85. The main 'gotcha' is that, in our experience, the supplied charging cables using Apple's Lightning connector are a bit of a hit and miss affair. We'd recommend carrying the original charge and sync cable Apple supplies or you may have enough power, but no way to use it.

If you're a cyclist, camper or otherwise outdoorsy type, then perhaps something solar may be more up your alley.

A quick visit to Solar Chargers (www.solarchargers.com.au) reveals dozens of different options, ranging from units that directly plug into your iPhone through to battery cases with integrated solar panels.

IN THE HOME AND OFFICE

Your routers, servers and other key office systems are critical to the ongoing success of your business. Or perhaps you want to make sure that the gaming console, TV and media centre computer are protected from any fluctuations in the power coming through the electricity network.

A UPS, or Uninterruptible Power Supply, is an important tool that can protect your devices from any fluctuations in the electricity supply.

A UPS combines a large battery with some sophisticated circuitry that takes the power coming in, filters it so that it is free from any frequency, current or voltage fluctuations and delivers a 'clean' supply to your home or office equipment.

As the battery is constantly charged, should the power go out, your equipment will keep running. For servers and other important office systems, this will give you enough time to shut them down gracefully so that none of your data is corrupted by a

sudden, unexpected power outage.

Several of the UPS devices we've used have both battery-supported outlets and surge-protected outlets. If you choose one of these devices, then make sure you connect the right devices to each outlet. For example, you may like to connect your router and server to battery-supported outlets while your printer is fine with surge protection.

The capacity of a UPS is measured in VA, or Volt Amps. Strictly speaking, to calculate the number of VA you need to accommodate with your UPS, you need to allow for something called Power Factor. This is a measure of how efficient the energy delivery of the power supply is. The trouble is, short of using your own measurement equipment, this can be quite difficult to determine.

Some suppliers of UPS devices will suggest using a Power Factor of 1.4. This assumes that the UPS is operating at 60

percent efficiency with the remaining 40 percent lost as heat and other forms of unused energy.

The calculation used to estimate the time a UPS will operate your device is:

$$\text{Battery Ah} \times (\text{battery voltage/device load}) \times (1/\text{Power Factor}) = \text{UPS uptime}$$

You need to know the voltage of the battery in the UPS and the battery capacity (measured in Ah rather than the mAh we use for smaller devices).

For example, an iMac has a power supply rated at 12.1 volts and 15.4 amps. This is a device load of 186.

If the UPS has an efficiency of 60 percent, this gives a power factor of 1.4.

In this example, the UPS has a 12-volt battery with 7Ah of power.

$$7 \times (12/186) \times (1/1.4) = 0.32 \text{ hours or just under 20 minutes}$$

If you're planning to connect multiple devices to the UPS, then you'll need to add their loads together for the calculation.



Extra time. The PowerShield Defender 1600VA UPS topped our UPS Group Test last year with 4.5/5 rating.



WHAT'S IN A BATTERY?

What we typically call a battery is really a collection of smaller units called cells. Two

or more cells working together make up a battery.

A cell is made up of three main components: an anode (or negatively

charged terminal), a cathode (or positively charged terminal) and an electrolyte.

When a device that requires power is connected to a cell, it causes a chemical reaction to occur. Electrons travel from the negative terminal, through the device, to the positive terminal. That flow of electrons is called current.

In order to keep things neutral, positive ions flow from the electrolyte to the

positive terminal. As a result, positive ions are 'consumed' from the electrolyte. When power is applied to a rechargeable battery, electrons are 'pushed' into the battery causing positive ions to flow back into the electrolyte.

For non-rechargeable batteries, the material used in the electrolyte can't be restored by reversing the flow of electrons.



BATTERY CAPACITY

Chances are, when you buy a new battery-powered electronic gizmo or

an external battery pack, you'll be confronted with some measures of that battery's capacity.

The amount of energy a battery can deliver is measured in milliamp hours, or mAh. Think of it as being analogous to the capacity of the petrol tank in your car. The higher the mAh rating, the longer you can power your device.

Now, you'd think that an iPhone with an 1810mAh battery would have a longer battery life than an iPod touch with its

1030mAh battery. But that's like saying a fully loaded truck with a 100-litre petrol tank will drive further than a small car with a 40-litre tank and one passenger.

How long a battery will drive a device for is dependent on many variables, including what you expect it to do, as well as the efficiency of its design.



GOING OFF GRID

No matter what the capacity of your device's battery, at some point, you're going to need to recharge. And

that means drawing power from an outlet – power that costs you money.

Over recent years, there have been several government schemes to encourage homes and businesses to use solar power.

Apple's new corporate headquarters will be powered with energy from a 2900-acre solar farm with an investment of US\$848 million for the solar project.

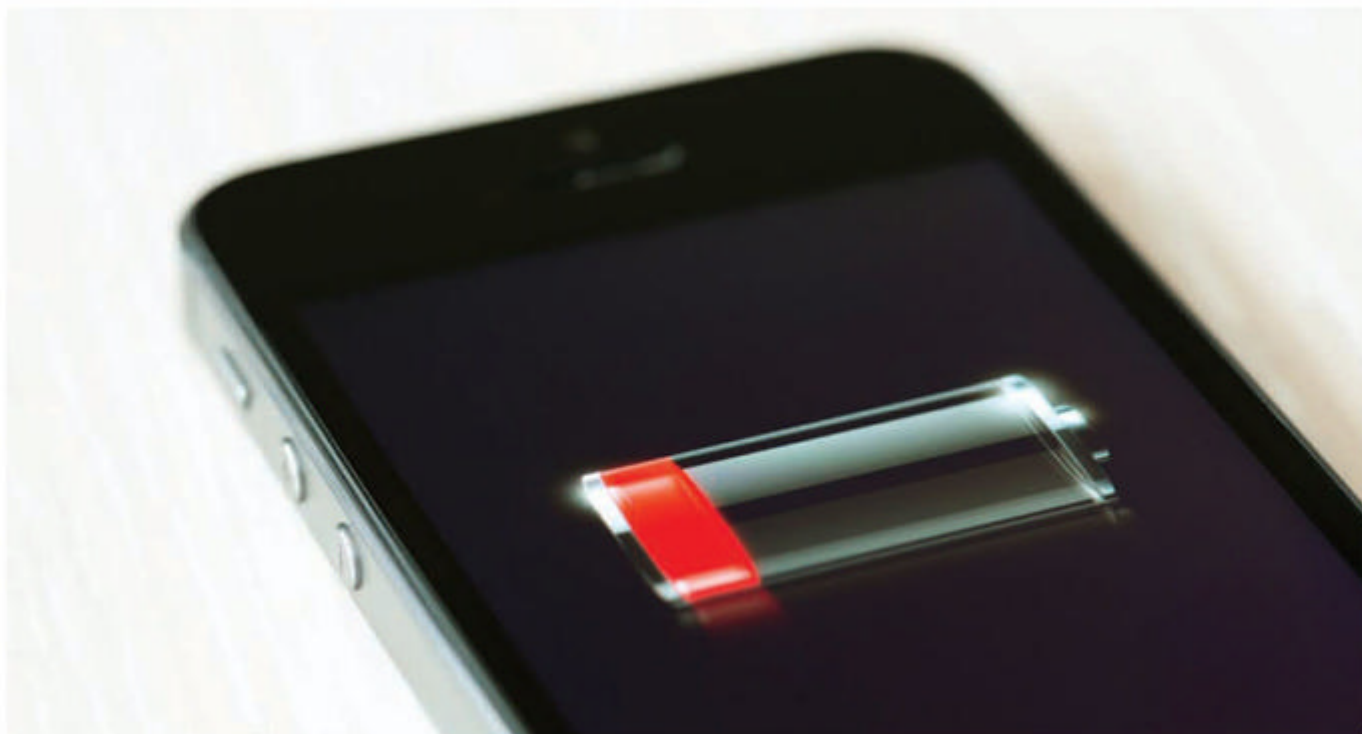
The trouble with solar, and any other small generation, is that you need to use whatever power you generate or send it back into the power grid. The good news is that the excess power you generate is worth some money, so you can offset the cost of power you

consume from the grid when your local generation isn't meeting all your needs.

However, car company Tesla recently announced that it has designed a battery system for homes and businesses that could be in production and available later this year. It will mean excess energy from solar and other local generation could be stored for later use rather than fed into the grid.

Accounts - multi-company & currency, parent child, multi address, integrated google maps, CRM - **Payroll** - payrun, superannuation, superannuation adjustment, next of kin, company, department, class, multi-award, RDO, cost splitting by department, multiple bank accounts, leave loading, allowances, child support, leave loading, rebates, salary packaging, commission structures, salary sacrifice, workers compensations, unlimited super funds per employee, annual leave, long service leave, carer & personal leave, future leave, accumulators, employee log file, Statement of Leave, payrun log, service, loan, reversals, capital allowance schedule - **Job Projects** - resources, activities, time sheets, allocations, job project invoices, job project credit memos, details, cost, analysis, job project financials, planning and quoting, billing, GL budget, resource & project gantt charts, tracking notes - **Inventory** - manufacturing, bill of materials (BOM), size/colour style matrix, unlimited barcodes per product, formula pricing, hire, lay by, multi-shop, batch and serial number tracking, inward goods, arrivals & deliveries, resources, price-book, multiple locations, multi-department, open to buy forecasting integrated emailing, document management, integrated soft phone. Sales reps, quotes, orders, invoices, requisitions, purchase orders and purchases, delivery run maintenance, dashboards, show reports, stocktake entry, transfer entry, build entry, unit demand, manifest, manager, asset purchase - **Management** - statement of position, months activities, cash & account movements, tax calculation, auditing tools, FX currency settings - **Assets** - passwords, password management, location management, tax and company depreciation, serial number tracking, warrantee storage, insurance details, barcode, company and tax valuation, computer equipment details, disposal, purchase, revaluation, repair, service, loan, reversals, capital allowance schedule - **Utilities** - User access inquiry, system controls, master defaults, remote access defaults, co inquiry, department inquiry, task inquiry, organisation chart, work flow rules inquiry change menus and names. server administration, web server - **Workbook** - CRM, contacts, actions, documents, tracking notes - **System wide** - document management, CRM, soft phone, inbuilt word processor spreadsheet, wysiwyg report writers, SQL database, html web server, web store, web pack, query editor





TRAVELLING AND TRANSPORTING BATTERIES

A few years ago a defective lithium-ion battery short-circuited causing a Sony laptop to catch fire. This led to a massive, global product recall and a change in how many organisations carried battery-powered devices.

In September 2010, an aeroplane operated by global logistics company UPS crashed as a result of a defective lithium-ion battery, which caused a fire during a

flight in the United Arab Emirates.

As a result of these and other incidents, organisations such as Australia Post now have strict regulations regarding the transport of goods with batteries. According to Australia Post, all lithium batteries are now classified as dangerous goods and can't be carried by air. Nor will it ship lithium batteries or devices containing them for mailing overseas or for domestic air carriage. These can only be transported within Australia by road transport.

Similarly, courier companies also have rules regarding the transport of devices

containing lithium-based batteries. If you plan to ship a device to someone local or overseas, make sure you check the rules before packing and shipping the item.

Our airlines also have rules regarding devices with batteries. Equipment with a battery that is for 'personal use' can be carried without needing to notify the airline in either carry-on or checked luggage. We'd suggest visiting your airline's website and searching for 'batteries' to check the rules, as they vary for different airlines and depend on your destination.



CHOOSING A POWER INVERTER

Power inverters can take the DC, or direct current, power created by your car's battery and electrical system and convert it to AC, or alternating current. This is what your notebook computer, iPhone or iPad need for charging.

The amount of power an inverter can deliver is measured in watts. In order to

calculate the number of watts needed to power your device, you need to carry out a simple calculation.

Look at the fine print on your device's power supply. You'll find how many amps and volts it uses. For example, our MacBook Pro's charger works at 3.65 amps and 16.5 volts. Multiplying those numbers gives you 60.225 watts.

The good news is that Apple's power adapters all provide the number of watts they need, so you can avoid doing any

maths. Further good news is that our calculation matches with the 60-watt rating Apple prints on the charger.

So, if we were buying an inverter, we'd be looking for one that delivered in excess of 60 watts in order to be able to charge our MacBook Pro while driving.

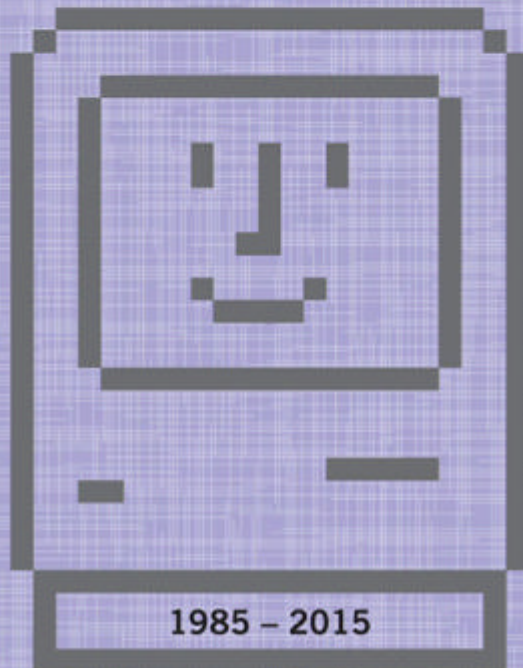
If you need to charge an iPad as well, that will add another 10 watts and an iPhone another five watts.

That suggests that most folks would get by with a 100-watt inverter. ☞

Macworld

AUSTRALIA

REUNION



COLLECTORS' EDITION

Celebrating our 30th birthday, *Macworld Australia* is going back through the years to relive the best times. From product launches to unforgettable moments, this book showcases the history of Apple in Australia and is a must-have companion for all fans. Also hear from the founding editor and the key *Macworld* people who have been part of this 30-year journey.

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SHOULD APPLE EXPAND ITS IBM PARTNERSHIP TO THE MAC?

BY ANTHONY CARUANA

Apple and IBM's recent alliance is bearing fruits in many industries. But all of the focus has been on iOS with transport, financial, retail and telecommunications apps being the first industries to reap the fruit of that relationship.

However, it's not just iPads and iPhones that are getting all the corporate attention. The Mac is also seeing a huge surge in sales. In the past, it was axiomatic that Apple had a five percent market share. But that has steadily grown with Apple now commanding in excess of 10 percent of the PC market.

And, although Windows still dominates the share of installed systems (recent numbers have the Windows share at around 90 percent when you combine Windows XP, 7 and 8), Apple's share is slowly growing.

As Apple's Mac sales continue to grow – Tim Cook notes in the January 2015 earnings call that Mac shipments for the quarter were in excess of 5.5

million units – software developers will start to turn their attention towards OS X. And IBM is in a prime position to take advantage of this.

Already, IBM has released 13 enterprise applications for iOS and Apple has stated that another nine will be released this quarter. The latest apps focus on the banking, retail and airline industries.

"This will bring us to a total of 22 apps and we're on track to have over 100 by the end of 2015," said Cook.

So, it seems a perfect storm is brewing. The Mac is increasing its market share and IBM has established great credibility and kudos through the applications it has already and will release.

IBM is a business. It is not developing for the app because it's a cool thing to do. It is doing it because of the tie-in with its enterprise applications and services. Those iOS apps hook into enterprise platforms that run on IBM's iSeries and other corporate hardware and systems.

IBM will target enterprise apps for the Mac when it deems it profitable to do so. But Apple will need to do a few things as well.

It's reasonable to assume IBM will depend on OS X delivering specific low-level functions reliably. Apple's track record here can be described as somewhat patchy.

For example, there is a well-known issue in Apple's network stack where the networking components hang when a large number of small requests are sent through OS X's network stack (macperformanceguide.com/blog/2015/20150104_1942-network-performance.html).

Also, it's not unknown for Apple to deprecate APIs or features with little warning. For example, in a project we worked on a couple of years ago, a function call that we relied on suddenly stopped working, breaking an application we developed. After investigation, we found that a function we relied on had been removed without warning during an update.

The challenge for IBM in seeing the Mac as an enterprise platform is that Apple's strategy seems firmly mired in being a consumer electronics powerhouse rather than invading corporate boardrooms.

Apple has, over the years, stopped producing server and storage hardware. OS X Server is now an add-on application for OS X and Apple's silence when it comes to corporate customers for the Mac is almost deafening.

If IBM is to expend its partnership to the Mac, Apple will need to change its tune when it comes to the big end of town.



NEW OUTLOOK WIPE THE APP, NOT THE PHONE

BY MARK HACHMAN

Using your own phone inside of your work environment can be terrifying because of two words: remote wipe. Fortunately, the more granular admin controls inside the new versions of Outlook's Android and iOS apps should help soothe your fears.

The new preview of Outlook for Android and the full-fledged version of Outlook for iOS include a PIN lock, helping secure your phone in case it gets lost or stolen. And your IT admin can simply erase your email without resetting the phone itself.

Your IT department is vigilant about protecting confidential company data – and one of the more obvious holes is your phone and the company email stored on it. If your company enforces a strict policy, it can reset your Android phone to its factory settings – the 'remote wipe' – if you report it missing. (Because Apple encrypts iPhones by default, admins can usually wipe your email without problems.) That's why many Android users use a program like TouchDown HD or Samsung's KNOX to wall off their email in a partition. If the 'remote wipe' command is issued, only that partition will be erased, and not your photos, contacts, downloaded files and other personal stuff.

NEW ADMIN TOOLS

Fortunately, the new Outlook app for Android and iOS does the same. "This is a selective wipe, not a device wipe: corporate email, calendar, contacts and files are removed, but a user's personal email accounts and information stay intact," a Microsoft representative said via email.

With the new versions of Outlook for Android and iOS, passwords are enforced using Exchange ActiveSync. In practice, that means adding a PIN or a password to unlock your phone. (The same policy will be enforced differently on different phones. My Samsung Galaxy Note 3 required a password to unlock my phone and use it with my employer's email, while an LG G3 required a simple numeric PIN to do the same.) On Android, you'll also have the option to encrypt the entire phone, not just the email.

Outlook for iOS runs only on iOS 8.0 or later. These devices are shipped with built-in encryption, Microsoft noted, which Outlook uses once the passcode is enabled to encrypt all the data Outlook stores locally on the device. Therefore, iOS devices will be encrypted regardless of the Office 365 or Exchange policy.

Note that if you fail repeatedly to enter the correct password (on our Android test phone, it was 10 times) the phone will factory reset, and you'll lose all of your personal data. But if your IT department remotely wipes the phone, it can do so by wiping the app itself.

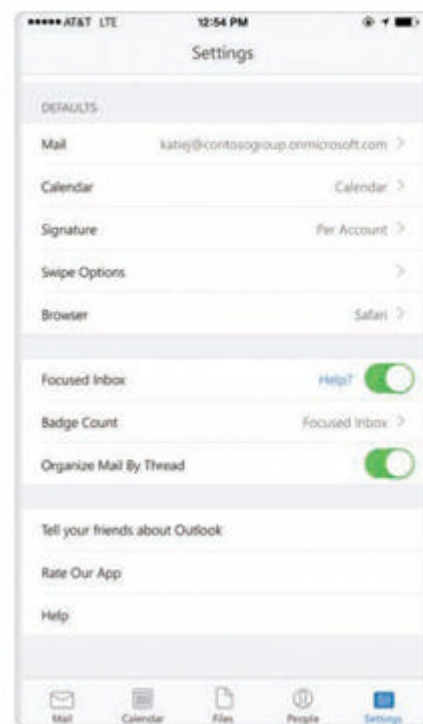
NEW SWIPE FEATURES

The Outlook app also now connects to email services that use IMAP and it can use the IDLE command to receive push notifications.

Outlook has a unique feature for iOS, threaded email, which Android lacks. Outlook for iOS (and now Android) also allows you to control how you'd like swipes to be handled. Swipe right, and email can be scheduled to be read later. Swipe left, and you can archive it for later. But the default behaviours can also be adjusted. You can also create new folders to store the swiped email.

What's next? Better language support and local syncing of contacts, a feature that's overdue.

About the only issue I found was an odd one: the option to uninstall Outlook for Android is a bit tricky to, well, uninstall. Here's the clunky process: Go to *Settings > General > Security > Device administrators* and uncheck the Outlook Device Policy. You'll then need to go to the *Device > Lock Screen* setting to adjust that setting to what you, rather than your IT department, prefers – then uninstall.



Options. The settings menu for Outlook for iOS.



FIVE iOS APPS FOR SIGNING DOCUMENTS

BY JASON CIPRIANI

The dance of printing a document, taking a pen and signing it, then scanning and emailing it to a banker or client is one I think we've all done. It's also extremely inefficient, not to mention annoying.

The Mac's handy-dandy Preview app makes it possible to fill out and digitally sign a document, but it's just as easy to sign from an iOS device, and of course there is no shortage of apps for that. I've whittled that selection down to these five that cover all the bases, letting you sign, fill out forms, connect to your cloud storage accounts and use's iOS 8's share extension, among other features. The differences between them boil down to aesthetics, workflow and pricing – which means one of them is probably just right for you.



SIGNNOW

SignNow offers a free app for both the iPhone and iPad. If you only need to

sign five documents (or fewer!) per month, the free tier will cover you. Anything over that requires a monthly or yearly service plan, which aren't cheap – ranging from \$18.99 to \$229.99.

Of all the apps, I found SignNow to be the most visually appealing. Not to mention the quality of the signature placed onto the document was top-notch. The process of sending a document to someone else for him or her to sign allows

for you to place buttons on the document, designating what information is needed where, and from who.



SIGNEASY

SignEasy is free, but limits you to signing three documents. Total. After

you've reached the limit, you can purchase an additional allotment of 10 documents for \$6.49, or a year of unlimited signatures for \$49.99.

Also hidden behind the additional fees is the ability to unlock the app with Touch ID or passcode. If you ask me, securing my account should be free. SignEasy could also benefit from a clearly defined method for requesting signatures from someone else.



DOCUSIGN

DocuSign has long been my go-to document signing app, only for its availability

across multiple platforms, including web). The app is free to sign as many documents as you need to, with a limit on the number of sent docs. Plans for sending documents start at \$12.99 per month (paid annually) for five docs per month.

My only reservation with DocuSign is that the signature and text placed onto a document doesn't look nearly as crisp and refined as SignNow and SignEasy. But admittedly, I'm nitpicking. The app and service do the job with little fuss.



PDFPEN 2

PDFpen 2 is the only app on this list you need to pay for upfront – but then

you'll never pay again, no matter how much you use it. The \$24.99 price tag may be considered steep by some, but with no subscription fees or usage limits, it becomes a value.

Adding a signature isn't completely obvious the first time you use the app, since it's geared more toward editing and working with PDFs. It auto-detects fields in PDF forms, making it easy to go from one field to the next, filling in your information along the way. To sign a document, you need to draw your signature on the line. After that you can save your signature for future reference. Once a signature is saved, a couple of taps is all that's required to sign another document.



PDF READER

PDF Reader is completely free, with no restrictions on the number of documents

you can sign. The only downside is having to deal with ads. For someone who doesn't sign a lot of documents, though, it's a solid choice.

Similar to PDFpen 2, PDF Reader is designed to be a PDF editor first and document signing app second. Features for highlighting text, scribbling notes on top of a document and the like are found throughout.

Digitally signing documents and forms might be nowhere near as personal as putting an old-fashioned pen onto a piece of old-fashioned paper and scribbling your signature. But it wins on speed and convenience every day of the week.

IPHONE STILL KING OF ENTERPRISE MOBILE AS USAGE SKYROCKETS, STUDY FINDS

BY JON GOLD

Apple's iPhones and iPads are still the most-used mobile devices in the enterprise, even as the market expands at high speed, according to a Citrix mobile analytics report released.

The study found that the total number of enterprise mobile devices in use rose by 72 percent over the course of the past year. Fewer than two out of three of every business-focused mobile device runs iOS.

Apple's numbers are highest in Asia and the Americas, at 67 percent each, and slightly lower in Europe and the Middle East, at 57 percent.

The EMEA region's platform diversity dropped slightly from Citrix's 2013 numbers, but still posted a healthy 27 percent for Android and 16 percent for Windows Phone devices, marking a fall of three percent and four percent respectively. Windows Phone use actually grew in the Americas, rising from two percent to seven percent, while Android use shrank by a similar amount, from 30 percent to 26 percent.

Asia continues to be iPhone-dominated, but that 67 percent figure still marks a considerable downturn from the towering 81 percent figure a year ago. Citrix posits that the growth of Samsung

as a regional player may have contributed to that change.

On the consumer front, the study found that video is an unsurprisingly central driver of increased data consumption – all five of the top mobile games of 2015 so far include a video component, compared to just two for 2014, and sports video content consumption has doubled in the past six months alone.

The study's enterprise figures tally with other research findings, including an apparent rush by businesses to adopt mobile management systems. Good Technology's October survey of mid-market businesses revealed that more than 70 percent had already adopted MDM or other basic mobility services, and that nearly all planned to institute dedicated mobile security and app management within the next year.

IBM ROLLS OUT THREE NEW iOS APPS FOR ENTERPRISES

IBM has unveiled a fresh crop of apps resulting from the partnership it forged with Apple last year.

Announced at Mobile World Congress in Barcelona, the three new mobile apps for iOS target the banking, retail and airline industries and join the 10 industry-specific IBM MobileFirst apps that arrived in December.

Advisor Alerts is designed for enterprises in banking and financial services and aims to help financial professionals prioritise client-related tasks while away from the office. Powered by customised analytics, the app includes a personalised dashboard that displays recommended next steps and alerts about portfolio-affecting events; it also provides a platform for communication with colleagues back at the office.

Dynamic Buy, meanwhile, seeks to help retail buyers make better buying decisions

by offering seasonal recommendations and real-time product-performance information.

Finally, Passenger Care targets the airline industry with an app that empowers customer service agents to address traveller needs from anywhere, leading to a smoother, more personalised experience for passengers while speeding up check-in and easing airport congestion, IBM said.

All three apps are tailored for iPhone and iPad and are delivered in a secure environment. Incorporating analytics and linked to core enterprise processes, they can be customised for any organisation and managed via IBM's cloud services for iOS devices.

IBM MobileFirst for iOS apps are now available for companies in banking, retail, insurance, financial services, telecommunications, energy and utilities and for governments and airlines.

Though the partnership between Apple and IBM was widely viewed with surprise when first announced, both companies stand to gain considerably from it. Most notably, Apple gains easier access to

enterprises than it has had in the past, and IBM can tap Apple's expertise to expand its mobile footprint.

In fact, the two companies are not as incompatible as they may seem, says Roger Kay, principal analyst at Endpoint Technologies Associates.

"IBM and Apple share a lot of DNA," Kay says. "The way they each look at problem-solving is probably more similar than it is dissimilar."

Now, their focus on offering vertical solutions makes a great deal of sense, he adds. "Solving a particular problem for a certain group of people tends to be better than offering a more general capability."



FIVE IFTTT RECIPES FOR ON-THE-GO PRODUCTIVITY

BY JASON CIPRIANI

If This Then That (ifttt.com) is easily one of my favourite web services. With a free account you're able to connect various services, devices and accounts that have absolutely nothing to do with one another and make magical things happen.

IFTTT lends itself to being a personal assistant – only this assistant requires little to no interaction after its told what to do. In that spirit, here are some IFTTT recipes to help eliminate mundane tasks for your daily work routine.

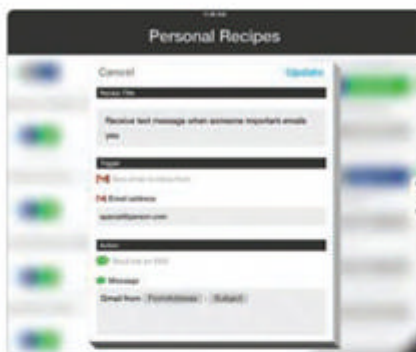
First things first, sign up for a free IFTTT account. It takes a few seconds to complete, and you'll need one before you can add any of the recipes below. Oh, and you'll also want to download the free iOS app to your iPhone and/or iPad.

LOG WORK HOURS

Whether you're running your own business, or working for someone else, keeping track of the hours you work is essential. Using a combination of your iOS device's location and a Google calendar, this IFTTT recipe (ift.tt/1AM9KBg) can log when you arrive and leave the workplace.

While adding the recipe, be sure to set the proper location for your use. It defaults to the location the person who created the recipe used, which is obviously not the same place you work.

If you work in multiple locations, you'll need to add the recipe for each location. Change both the location and the text under the 'Quick Add Text' field to give each location an identifiable name.



GET A TEXT WHEN YOU RECEIVE AN IMPORTANT EMAIL

We all have people in our lives who rarely email us, but when they do it's super important. The next time your boss or a client you've been dying to close a deal with emails you, you'll receive a text message letting you know to check your mail. This recipe (ift.tt/18CrAwm) works with a Gmail or Google Apps account.

CONNECT ON LINKEDIN

Connecting with a client, colleague or friend on LinkedIn is a convenient way to network and expand your potential reach. At least, that's what I've been told.

With this IFTTT recipe (ift.tt/17J1x5n), you can automatically send a friend request to any new contact added to your iOS device. Meaning, instead of sitting down after a big networking event and searching LinkedIn for the people you talked with, IFTTT will send a LinkedIn Connection request as soon as you add the contact to your phone.

It's a tad creepy, I'll admit. But it does eliminate a pain point in trying to grow your professional network.

KNOW WHEN IT'S GOING TO RAIN

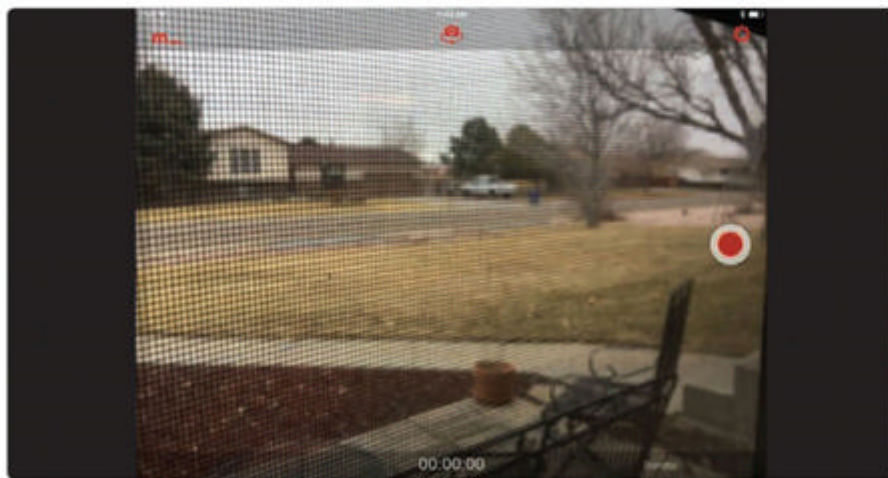
Working outside can be a blessing one minute, a curse the next. Even if checking the weather is part of your routine, if you happen to forget, you could get caught in a shower. By adding this recipe (ift.tt/1M2qurR), you'll receive an alert on your iOS device if tomorrow's forecast calls for rain. You can even create a recipe that uses a forecast snow as the trigger instead of rain, so you can give yourself extra time on a snowy morning.

HOMEBREW SECURITY CAMERA

Have an old iOS device lying around, unused? Perfect. Download Manything (manything.com), a free iOS app that converts your iDevice into a security camera.

Once that's set up, create a recipe (ift.tt/1BOZUKu) that starts the Manything as soon as you leave the premises. Doing so will give you peace of mind that nothing shady is going on when you're not around, as well as double as a motion activated security camera.

Naturally, there's a lot more that can be achieved with the two services, so be sure to visit Manything's channel on IFTTT (ifttt.com/manything).



The home for business-minded Apple users on macworld.com.au

While many Mac, iPhone and iPad owners use their devices for purely personal pursuits, there are those who document, record and share as part of their day to day work. What are the most efficient and effective hardware and software options for your needs? How can you start using it immediately to drive sales, connect with colleagues, create powerful presentations, reduce communication charges?

We examine the latest technology for enterprise users to help you make the best use of your time and resources for your business.

Jonathan Stewart - Editor of Macworld Australia

We started this section as we appreciate that technology is a critical foundation for the success of your business.





ZeroChroma Vario Protect

The Vario Protect sports a rugged design with a rubberised, anti-slip texture for easier handling. The case features a semi-transparent back and a sturdy exterior shell, and comes in black, white, pink, blue or orange. The Vario Protect includes a rotating stand that supports multiple viewing angles in both portrait and landscape orientation – perfect for endless hours of watching videos, playing games and reading the news.

ZeroChroma / US\$39.95 + shipping /
www.zerochroma.com

**GEAR
GIZMOS
GOODIES**

GADGETGUIDE



Element Case Solace

The Solace features a lightweight figure with removable top and bottom crowns for easy installation and additional protection. This polycarbonate case sports press-through button overlays and reinforced aluminium corners to help prevent unwanted damage and smudges. It comes in gold, alpine white, turquoise or carbon black, and the iPhone 6 version includes a sleeve where you can stash your iPhone when it's not in use.

Element Case
US\$99.95 + shipping
www.elementcase.com



CableJive HeroDock

The CableJive HeroDock has a sturdy aluminium base designed to support either your iPhone or your iPad while it charges. Two suction strips hold the stand to your desk, interchangeable charge and sync cables mean the dock is compatible with iOS, Android and Windows smartphones and tablets, and its adjustable stage can accommodate a variety of protective cases.

CableJive
US\$49.95 + shipping
www.cablejive.com



Cygnett Slim

The Slim for iPad Air 2 features a minimalistic design that prevents damage, yet still provides clear access to all of your iPad's buttons and ports. The case can prop your iPad up in landscape orientation in a variety of angles, thanks to a series of grippy dots that hold it in place, and sports a microfibre lining for additional screen protection when your iPad is not in use.

Cygnett
\$44.95
au.cygnett.com



Speck ShowFolio

The ShowFolio for the iPad mini range, clips on to the back of a seat in your car – a feature that will surely come in handy when someone wants to watch a movie during longer car rides. Manufactured with a moulded frame and cover for extra protection, it can be used as a stand in landscape orientation and is compatible with the iPad mini's sleep/wake feature.

iWorld Australia

\$69.95

www.iworldonline.com.au



Just Mobile AluFrame Leather

The AluFrame Leather for iPhone 6 combines a rugged back cover with an aluminium frame to provide better grip and extra damage prevention. The 30g case features precise cutouts for your Lightning port, camera opening and headphone jack, includes press-through button covers and comes in five solid colours – black, blue, grey, beige and pink.

Just Mobile

US\$39.95 + shipping

www.just-mobile.com



Sena Burnished Portfolio

The Burnished Portfolio is an elegant, handcrafted leather portfolio-style case that not only protects your iPad, but also adds a traditional touch for working professionals. Made of vegan tanned leather, the case includes room for a notepad, pockets for your credit cards and photos IDs, a stylus holder and a dedicated compartment for your iPad Air 2. The Portfolio is available in tan, brown or black.

Sena

US\$119.95 + shipping

www.senacases.com

FiftyThree Pencil

FiftyThree has repackaged its Pencil stylus as something fancier – the Pencil Gold. Why? Style of course. A digital stylus, the Pencil Gold joins the Graphite and the Walnut + Magnetic Snap versions offered by FiftyThree. With a drawing/writing tip on one end and an eraser on the other, the stylus connects via Bluetooth and is powered by a rechargeable battery.

FiftyThree / US\$59.95 + shipping / www.fiftythree.com





APP GUIDE

Cool software for the iPad, iPhone & iPod touch.



SHADOWMATIC

GAMES

Triada Studio

iPhone & iPad \$3.79

It's always awesome to see a breathtaking, unique and thoroughly innovative puzzle game pop up on the App Store and we're particularly impressed with Triada Studio Games' light-and-shadow-play perspective game, *Shadowmatic*. *Shadowmatic* is relatively simple to play, so you'll get the hang of it quickly: In each level, you're given one to three objects, which are suspended in the air and illuminated by a light source. This illumination projects a shadow onto the wall behind the objects, and you're asked to flip, rotate, twist and move the objects around until you can create a recognisable shadow, which could be anything from animals and fish to tools and athletes in different poses. *Shadowmatic* is gorgeous, innovative and cleverly-designed.



MAIL PILOT 2

PRODUCTIVITY

Mindsense

iPhone & iPad \$12.99



Popular email client Mail Pilot treats each message as a task to be checked off your to-do list. Mail Pilot 2 looks sharp and brims with great ideas for managing your email. Like its Mac version, the app seems to have arrived without a few

finishing touches – and once those fixes get made, it should become well worth owning for task-oriented users eager to tame their inboxes.



ASTROPAD

PRODUCTIVITY

Astro HQ

iPad FREE



Astro-HQ wants to transform an iPad into a Mac graphics tablet. Astropad unifies the iPad and Mac screens into one mirrored interface and with the apps installed, the tablet links to the computer via Wi-Fi or a syncing cable to become a touchscreen-editing surface for just about any Mac-based graphics program.



GUNBRICK

GAMES

Nitrome

iPhone & iPad \$3.79



Gunbrick is a hybrid platformer/puzzler that tasks you with “shooting and rolling your way to victory”, to paraphrase developer Nitrome’s description. This challenging title features

stylised pixelated art, unlockable adventures, boss fights and, of course, a gun brick – which is exactly what it sounds like it is. *Gunbrick* is just original and weird enough to earn a spot on your iOS device.



SCREENY

UTILITIES

Noef Fing Name

iPhone & iPad \$1.29



Screeny filters out these screenshots so you can easily delete them. It scans through your Camera Roll and grabs all your screenshots, which you can review before batch-deleting the whole lot. You could also delete them one-by-one, or filter them down further by the last 15 or 30 days, if you only want to delete older snaps.



MARVEL CONTEST OF CHAMPIONS
GAMES
Kabam
iPHONE & iPAD FREE



Marvel Contest of Champions is an impressively produced free-to-play fighting game that pulls top heroes and villains in from all corners of the comic universe. It has some of the familiar freemium trappings,

as expected, but Kabam's tap-and-swipe brawler thankfully isn't beaten to a pulp by its business model. It's not incredibly deep, but there's still several hours of free fun to be had here.



FORGE BY ADONIT
PRODUCTIVITY
Adonit
iPAD FREE



Forge has been two years in the making, but it's more than a simple sketch app – it's a brainstorming tool. Users work on a blank Wall to begin creating and thinking through ideas. You can create new sketches on what amounts to a piece of paper. Each

sheet contains a total of four possible layers, and you can combine and duplicate them to create yet another sketch.



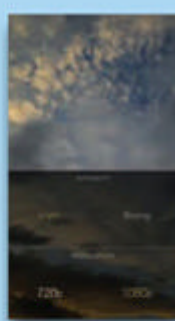
SAVER 2
FINANCE
Alex Solonsky
iPHONE \$3.79



The Saver 2 personal finance app lets you track your income and spending, as well as set your financial goals. Users can plan budgets, review and analyse data by week, month or year, categorise entries with tags, notes and photos, examine interactive charts and protect their data with a passcode or Touch ID lock. You can upgrade to Saver Plus or Saver Pro for additional features.



HYDRA
PHOTO & VIDEO
Creaceed
iPHONE & iPAD \$6.49



Having trouble getting the perfect picture? The Hydra app merges up to 60 frames together to create a single detailed shot. It has five capture modes: HDR, Video-HDR, Lo-light, Zoom and Hi-res. It's recommended for static and distant scenery – the shooting method might create visual clutter when shooting a moving target.



FRAMED
GAMES
Loveshack
iPHONE & iPAD \$6.49

Framed is a game designed to mimic the flow and structure of a comic book or graphic novel. It builds mechanics from the placement of the panels themselves, which is incredibly clever. This noir-soaked tale sees you alternately guiding a shadowy man and woman away from police and an unknown pursuer. All you'll do is reposition or manipulate the colourful panels that appear on the screen, in the hopes of creating a safe path from top to bottom. *Framed* really is a premium experience deserving of your money. Beyond being a seriously smart concept, the noir art style is swell, the animation is dazzling, and the jazz score is just the cherry on top.





A car could be another piece to Apple's puzzle

Apple shouldn't stop at CarPlay.

There's a hole in the digital hub. All day long we have a unique, immediate connection to the places we go, whether it's through an iPhone, Apple TV or, soon enough, an Apple Watch. HomeKit has brought a sense of unity to the Internet of Things. HealthKit has laid the foundation for a bridge between patient and doctor. Digital Touch gives us a quick, spontaneous way to communicate with our distant friends and loved ones.

But all that stops the moment we step into a car. CarPlay can link with our phones and let us dial and talk through our dashboards, but for the most part, the technology in our automobiles pales in comparison to what's in our pockets.

Even Tesla's ultra-modern interior of screens and digital sliders is still on an island of its own – no matter how luxurious it is when you're behind the

wheel, the experience is bound by the four doors. And now it looks like Apple is trying to change that. If you missed the rumours, somewhere in a secret lab at 1 Infinite Loop, Jony Ive is working on perhaps his greatest undertaking: a full-fledged automobile.

LIMITED VISIBILITY

When Eddie Cue demoed 'iOS in the Car' back at WWDC in 2013, it seemed a bit half-baked. As he zipped through maps, messages and music, I was waiting for a 'wow' moment that never came. By working with existing manufacturers, Apple was constricted by the screens and systems in place.

iOS in the Car certainly looked better than any in-dash entertainment I had seen before – especially the one that's in my Hyundai – but it didn't really bring anything new to the table. It was like putting lipstick on a Siri-powered pig.

It's the same problem I had with the Motorola ROKR. Dubbed the Apple iTunes phone, it was supposed to bring a bit of the iPod ingenuity to our handsets, but in reality it merely created a bridge to the music locked on our Macs. The interface was a cheap imitation of the iPod's intuitive menu structure, and it was wrapped in a substandard package that tried to imagine what an Apple phone would look like. Basically, Apple was at Motorola's mercy, because no matter how good the iTunes app was, it was only part of the experience. And that's not how Apple operates.

With cars, Apple has even less control. Not only does CarPlay need to span a broad spectrum of manufacturers, it also has to be designed with an interface generic enough to work with both touch- and dial-controlled systems.

It's a less than desirable solution, but there's no other way for Apple to make a true push into automobiles – just like it needed Motorola in 2005 to get its foot into the door of the mobile phone industry.

OPEN ROAD

When you think about it, the flood of February reports was fairly inevitable. After the ROKR, we were certain Apple was working on its own phone. Almost as soon as Apple TV was released, rumours of flat-screen television sets emerged. And now that CarPlay is beginning to make its way into vehicles, here come the iCar rumours.

Apple has transformed its share of products and industries, but automobiles are a whole other story. It certainly has the capital to invest in such an undertaking, but Apple doesn't exactly have a history of dabbling. And if there really is a team of hundreds of people working on the project right at the time all resources should be dedicated to Apple Watch, Tim Cook is certainly serious about whatever he's building.

But if a Cupertino car is indeed in the works, it won't be judged on its horsepower and torque. Much like the iPhone is more than the sum of its RAM and clock speed, an Apple car will need to deliver an experience unlike anything we've ever driven, seamlessly transitioning our digital lives without missing a beat.

ULTIMATE DRIVING MACHINE

Imagine a car that not only recognises who's driving, but also where they're going, what they need to do when they get there, and what they want to listen to along the way. With the iPhone and Apple Watch, Apple has an opportunity to create a navigation system that's truly smart and a heads-up display that personalises the trip based on the Apple Watch on the wrist of the person sitting in the driver's seat.

The song you were listening to on your Mac could continue playing when

you start the engine. The quickest route to the office could be automatically set based on the time of day. A reminder could alert you to buy milk when you drive past a grocery store. It could give you a minute-by-minute weather forecast. And it could send a message to your thermostat when it notices you're on your way home.

But just like the killer app of the original iPhone was making calls, the killer feature of an Apple car would obviously be driving. While the connectivity and Handoff features would certainly add tremendous value to whatever kind of vehicle Apple makes, it will, above all, still be a car.

Rumours point to it being electric (which is a bit of a no-brainer), but what intrigues me is the self-driving aspect. We've already seen a prototype of a driverless car from Google, but a healthy dose of Apple ingenuity could be what the technology needs to get off the ground.


ZERO TO 100

Assuming this isn't Tim Cook's version of an early April Fool's Day joke, however, I'm not so sure we'll ever see an Apple car on the road (and I'm downright certain it won't be a minivan, as *The Wall Street Journal* suggested [on.wsj.com/1zBD9sL]).

CarPlay is like putting lipstick on a Siri-powered pig.

Apple's top-secret auto project doesn't need to produce anything drivable to be worth the time investment; the knowledge gained about batteries, seamless connectivity, and location awareness would be invaluable to any of Apple's current products, especially CarPlay, which Cook has already deemed "very, very important" to the evolution of the ecosystem.

But then again, we've been down this road before. Less than a year and a half after the first fruits of its Motorola partnership, we were introduced to the iPhone. Steve Jobs wasn't content to have just a part of a phone, he wanted to build an end-to-end solution that was pure Apple. A car may be a bit further outside of Apple's purview than a phone, but there's no reason to think it won't be able to build on what it learned with CarPlay. The car represents Apple's final frontier, the only place where we're not as connected as we could be.

After all, just look at what the ROKR turned into. 

Rock it. The Motorola ROKR E1, dubbed the iTunes phone, was a bridge between handsets and iPods.





MAC GEMS

NEW SOFTWARE FROM THE MAC APP STORE

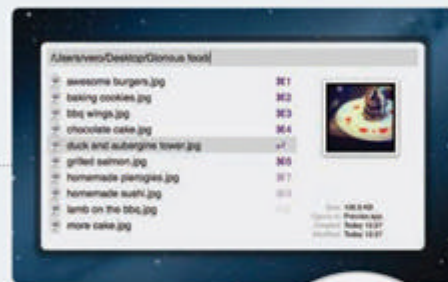


ALFRED

PRODUCTIVITY

Running with Crayons
FREE

At its most basic, Alfred is an app-launching utility. Rather than clicking on an icon in your dock or scrolling through folders for files, you simply type a key-combination to bring up a text input window. As you begin typing the name of the file you want to open, Alfred starts displaying matches, narrowing down the list as you continue to type. Either hitting the Return key or selecting a Command-key option will open the selected item. If you want to squeeze the most out of Alfred, you need to buy the Powerpack (£17). This unlocks more advanced capabilities such as searching your contacts, accessing your clipboard history, controlling iTunes playback and integrating with 1Password. But probably the most important Powerpack feature is the ability to create workflows. Available via www.alfredapp.com.



TOP PICK



DESK: WRITE MORE

PRODUCTIVITY

Yo gg llc
\$37.99



Yo gg llc's Desk: Write More is a Markdown editor that, despite its minimalistic look and feel, manages to provide plenty of great features. The app offers up a variety of layout and theming options, and is capable of direct communication with many popular blogging and social

media platforms, making it an excellent publishing companion.



DREAMSHOT

PRODUCTIVITY

Silver Beech Studios
\$8.99



Silver Beech Studios' DreamShot lets you take a screenshot with a key combination of your choice — similar to taking a screenshot using OS X's standard commands. Rather than dumping the resulting

image onto your already cluttered desktop, however, the app allows you to immediately send it to a different app. That makes it an excellent utility for a variety of tasks, from beta testing to troubleshooting.



MYTUNER NEWS PRO

NEWS

Appgeneration Software
\$3.79



Part news reader and part audio player, Appgeneration's MyTuner News Pro brings together hundreds of the world's most popular new sources into one easy-to-use interface, letting you catch up

with what's going on in the world. The app supports sources from nearly 60 countries, can play your favourites at startup, and will even allow you to add your own radio stations for a truly customised experience.



ROAD TRIPPER

TRAVEL

ZurApps Research
\$10.99

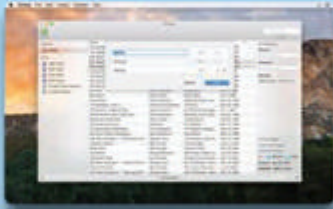


ZurApps Research's Road Tripper will help you plan your next road trip adventure, anywhere around the world — or, at least, anywhere Apple's Maps will take you. The app allows you to pinpoint an arbitrary number of locations

on a map, record step-by-step driving (or walking) directions between them and then sync your entire trip to your iOS device using iCloud.



CHICKOO
PRODUCTIVITY
Coding Turtle
\$31.99



attributes. Once grouped, you can tell it to either leave files where they are in the file system, or group them into a folder of your choosing.

Coding Turtle's Chickoo helps you organise your files into lists and libraries that transcend the layout of your disk storage. The app allows you to group documents by type, description or custom



ECONOMY GLOBE 3D
TRAVEL
Travel And Play
\$6.49



can discover detailed geopolitical information about every country on the planet. If you've ever wondered what the population of Germany is, Economy Global 3D can help you out.

Travel And Play's Economy Globe 3D is a tool for people who want to get to know the world they live in better. The app gives you a three-dimensional view of the earth, on which you



HDREFFECTS
PHOTOGRAPHY
HumanSoftware
\$8.99

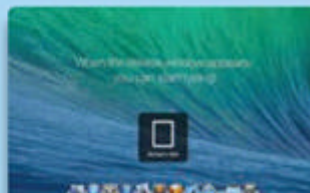


like hue, saturation and lightness. Users can select specific colour adjustments with a brush and flip images horizontally and vertically. It's a great tool for performing simple edits.

HumanSoftware's HDREffects lets you apply beautiful HDR effects to your photos without requiring the usual multi-capture approach. The app works with most common image formats (JPEG, PNG, TIFF and BMP) and allows you to tweak parameters



1KEYBOARD
UTILITIES
Eyal Wiener
\$12.99



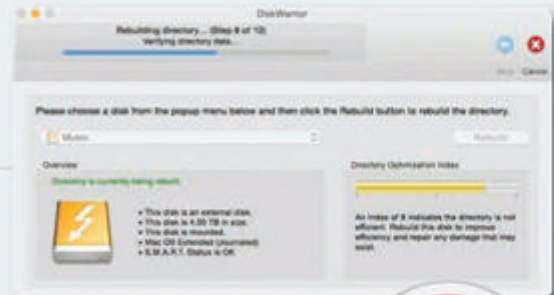
to your PlayStation — all without having to move a single finger (except, presumably, to type).

Sure, having multiple devices to use is awesome, but switching between them? Not so much. Developer Eyal Wiener's 1Keyboard aims to take some of that pain away by turning your Mac into a virtual



DISKWARRIOR 5
UTILITIES
Alsoft
US\$119.95; US\$59.95 (UPGRADE)

DiskWarrior 5 is a major update to this essential app and includes a number of new features. To optimise or repair a startup volume, you boot from a provided flash drive. To work on any other connected disk, you can copy the software to your Mac and run it from there. When you boot from the updated flash drive, which replicates your Recovery partition, DiskWarrior appears in the OS X Utilities window. Click it to launch it, and then select a disk to analyse, optimise and repair. DiskWarrior can rebuild a disk, check for damaged files and check drives for their SMART status. DiskWarrior remains the essential tool for maintaining and repairing disk problems. For both preventive maintenance and repair it's a must-have tool.





Unlocking Disk Utility's hidden secrets

Disk Utility has a lot of talents, some less well-known than others. We explore some of its more esoteric (though useful) features. BY TOPHER KESSLER.

One of OS X's most versatile utilities is Disk Utility – a tool not only used for formatting and managing a variety of storage devices, but also employed for fixing damaged volumes and performing the ever-so-common 'permissions fix' routine. While these features are relatively apparent, the program does have some often overlooked options that can be useful.

ALTERNATIVE CHECKSUMS

The first of these is the hidden checksumming routines for verifying disk image files. If you have an image, especially an older one, you may wish to verify its integrity before opening it. This is usually done when the image is opened, but you can also do it manually by adding an image to Disk Utility, selecting it and choosing *Images > Checksum > CRC-32 image checksum*.

This is fine, but often developers (including Apple) will issue updates and other software in disk images and include an SHA or MD5 checksum that you can use to verify the image's integrity before opening it. However, these options are hidden in Disk Utility

by default. To enable them, follow these steps:

1. Quit Disk Utility.
2. Open the Terminal utility.
3. Run the following Command:
`defaults write com.apple.DiskUtility advanced-image-options 1`
4. Relaunch Disk Utility

After performing these steps, the *Images > Checksum* menu will have a number of additional options for verifying image checksums. Leaving these options exposed does no harm, but if you'd like to restore the menu to its default state, just follow the first two steps above and use this command in step 3:

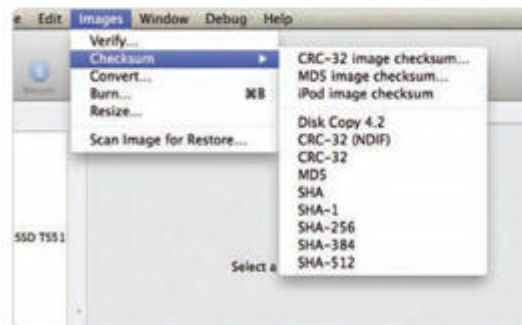
`defaults delete com.apple.DiskUtility advanced-image-options`

QUICKLY CREATE DISK IMAGES FROM FOLDERS

One useful feature of Disk Utility is its ability to create a disk image from the contents of a folder, where, like compressing the folder into a zip archive, you can use the resulting image to easily transfer the items to an online disk or other location that doesn't accept folders. The benefits

of this are that you can not only use disk image compression to help save space, but can also take advantage of Apple's robust AES-128 or AES-256 encryption for the disk image.

While you can access this feature using the *File > New > Disk Image* from Folder command, a quicker way is to simply drag your desired folder to the Disk Utility icon, which can be even more convenient if you have Disk Utility in your Dock. When you do this, a save dialogue box will appear that allows you to save the folder as an image immediately. Within this dialogue box you can additionally configure compression and encryption settings.



Alternatives. Use a Terminal command to expand Disk Utility's checksum options.

MANAGE HIDDEN VOLUMES ON YOUR MAC

While Disk Utility will allow you to partition, repair, erase and manage drives that you've attached and mounted on your Mac, it can also show those that are attached but currently not mounted. This can be useful for checking that a drive is connected and 'seen' by your Mac, determining how it's partitioned, and ensuring there aren't obvious problems with the drive (for instance, you thought it had only one partition but two or more appear). You can additionally force-mount some volumes that are configured to remain hidden and then access their contents in the Finder.

To enable this feature you must expose Disk Utility's Debug menu, which Apple uses for testing the app's features during development. Here's how:

1. Quit Disk Utility

2. Open the Terminal utility
3. Run the following Command:
`defaults write com.apple.DiskUtility DUDebugMenuEnabled 1`
4. Relaunch Disk Utility


With this menu enabled, choose the Show every partition command near the bottom and any hidden partitions will appear. You'll see, for example, an EFI partition appear on bootable drives and a Recovery HD partition for those drives that hold one. To undo this option, first deselect the Show every partition command, repeat the procedure above and then run the following command in step 3:

`defaults delete com.apple.DiskUtility DUDebugMenuEnabled`

VERIFY AND REPAIR MULTIPLE ITEMS AT ONCE

This last tip is a matter of quick convenience, particularly if you

regularly check drives for errors. To verify a drive you'd normally ensure that Disk Utility's First Aid tab was selected, choose an individual drive and click the Verify Disk button in the bottom-right of the window. You'd then move on to another disk and repeat these steps.

However, to speed things up you can verify more than one drive at a time, including all drives at once, if you wish. To do this, simply hold down the Command key and, in the sidebar, select the volumes and disks that you want to verify (or press ⌘-A to select them all). Note that Select All means exactly what it says; you'll select mounted disk images and optical disks along with your drives, so be sure to deselect any you don't want to check by ⌘-clicking on them. With the desired devices selected you can then click Verify Disk. Disk Utility will then act on them in sequence. 

TRANSFERRING IPHONE CONTACTS

BY LEWIS PAINTER

You've got a new iPhone – great! Now all you need to do is transfer all your old contacts to your new iPhone, but how do you do that?

SYNC CONTACTS VIA iCloud

On your old phone, make sure that you're logged into your iCloud account and connected to Wi-Fi. To check if you're logged in, head to *Settings > iCloud* – if your name and Apple ID are displayed at the top of the page then you're logged in and ready to get started. Once you're logged in, make sure that the option to sync contacts is toggled on.

Go to *Settings > iCloud > Storage & Backup* and tap Back Up now. The length of time this takes depends on how much content you're backing up and your internet connection.

During the initial setup of your new iPhone, you'll be prompted for your Apple ID details. When asked to choose from a backup or set up as a new iPhone, select Restore from iCloud Backup.

Select the latest backup from the list and the restore will begin. The length of time this takes depends on your internet connection. Once the restore has finished, the phone will restart and should be ready to use.

RESTORE TO A BACKUP

If you've already gone through the initial setup without restoring from a backup, all is not lost. Head to *Settings > General > Reset > Erase All Content and Settings*. Only do this once you have backed up your old phone via iCloud. Follow the steps from the previous section.


BACKUP VIA iTunes

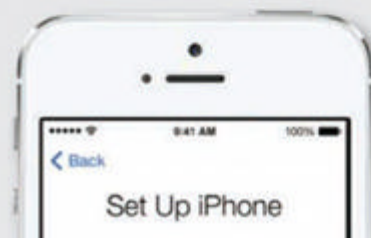
Plug in your old iPhone to your Mac or PC and run the latest version of iTunes

– your iPhone should be recognised and a window will open.

On the left hand side, click Info and make sure that contact syncing is enabled. Return to the Summary page, click Back Up Now and allow your iPhone to back up. Once your iPhone has backed up, unplug it.

Go through Setup Assistant on your new iPhone and when you're prompted to select your backup, select Restore from iTunes Backup. Connect your new iPhone to the Mac or PC you used when you backed up your old iPhone and open iTunes.

iTunes will ask you if you want to restore from a backup or set up as new – select the backup of your old device and click Continue. Once the Restore finishes, your new iPhone should be ready for you to use. 





How to choose the best video calling method

Much can be said over the phone or in email, but sometimes a face-to-face interaction is best. BY JOE KISSELL.

It should be such a simple thing: you're just going to make a video call. If it were a phone call, you'd dial a number and you'd either get through or you'd be directed to the other person's voicemail.

But with video, there are too many variables. Which service will you use? Which software? Is the other person on my buddy list? Are they online? What if you want more than one person on the call? Do all participants have sufficient bandwidth? What if you want to share a screen? And on and on. You can't 'just' make a video call with a random person without thinking through these things.

Even with all those questions answered, technology may not cooperate. I used to have a regular video conference with two other people across the country using Skype, but, more often than not, the connection was awful. After dropping and reestablishing the call a few times, we'd give up and switch to

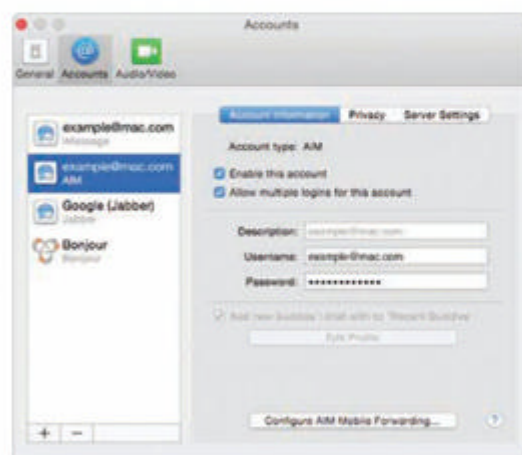
Google+ Hangouts, which behaved better for us. But in recent months, the opposite has happened repeatedly – Google+ Hangouts first drops video, then audio and we end up switching to Skype, which has been weirdly reliable (given our history with the service).

As a result, sometimes I can't decide how to contact another person for a video call, even if the person is a Mac user with all the same software and account types I have. If you ever find yourself in the same boat, you may find my ruminations on the matter helpful.

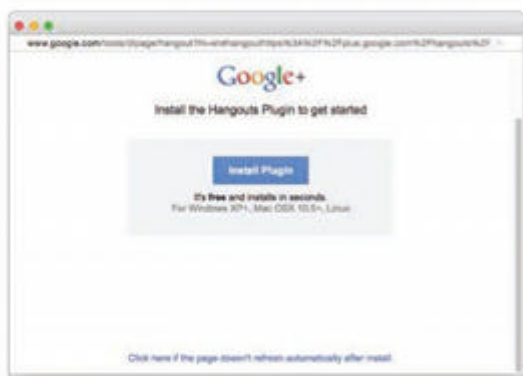
MEET THE CONTENDERS

There are oodles of choices when it comes to videoconferencing. I'm going to discuss just four: Apple's Messages and FaceTime (both of which are built into OS X and iOS), Google+ Hangouts (plus.google.com/hangouts) and Microsoft's Skype (www.skype.com/en). These are

among the most popular services, so it's likelier than not that anyone you want to contact by video uses at least one of them. Choosing a service for which the other participants already have an account is usually the path of least resistance.



Set it up. The messages app uses Apple's iMessage protocol by default, but you'll need to set up an account for a service like AIM or Jabber (highlighted here) to do a video chat.



Plug in. Before you can start or join a Google+ Hangout, you must follow the prompts to install the Google Voice and Video Plugin for your browser.

You may well find a product or service that you and your colleagues find more reliable or easier to use than one of these four. If so, by all means, go with what works best for you – by mutual agreement, well before any particular call is scheduled. The start of a call (or the few minutes before it) is not the right time for someone to set up an account and become acquainted with new software.

Here are the key differentiating features you should be aware of:

Messages. The OS X version of the Messages app can use Apple's iMessage protocol for text and MMS messages, but for video calls or screen sharing, you must use an account type that supports video (namely, AIM (aim.com), Jabber (jabber.org), or Google Talk (google.com/hangouts). You can get free accounts for any or all of these services, and set them up in *Messages > Preferences > Accounts*.

Before starting a video call, you must put the other person on your buddy list – but you can add them unilaterally. Although you can have video calls with up to three other people, screen sharing is possible only when you're on a call with one other person. Note, also, that the iOS version of Messages does not support video calls; to use a service like Google Talk on your iOS device, you'll

need a third-party app such as the free Vtok (www.vtokapp.com).

FaceTime. FaceTime, on either OS X or iOS, is great for one-on-one audio or video calls. Because it's simple to use and available almost anywhere, it's an ideal choice if you know the other person is an Apple user. And it offers highly secure end-to-end encryption. In most cases, you can use either an email address or telephone number to initiate a call, and the other party need not have FaceTime open or do anything special to log in. But you can't have more than two participants in a video call, and screen sharing isn't available.

Skype. With support for many platforms, multi-person video and screen sharing (with simultaneous video), Skype is a great all-purpose choice for video calls, and it offers encryption (although with fewer protections than FaceTime). But it comes with a few gotchas. Before you can call someone, you may need their approval to add them as a contact (depending on their privacy settings).

That's fine for friends and business colleagues, but if you're calling someone who doesn't recognise your name, there's no guarantee they'll accept you as a contact. Furthermore, the other party must be logged in to Skype on at least one device.

Google+ Hangouts. Like Skype, Google+ Hangouts can be used on a variety of platforms. On OS X, you log in to your Google account in a web browser. All participants need a Google account as well as the Google Voice and Video Plugin (which you're prompted to install the first time you start or join a video call). iOS users need the free Hangouts app. Using Google+ Hangouts you can share your Mac's screen and have video calls with up to nine other people. If any of the other participants aren't signed in to Hangouts on at least one

device, they'll receive a notification when you try to call them (which they may or may not see immediately).

A MATTER OF PROTOCOL

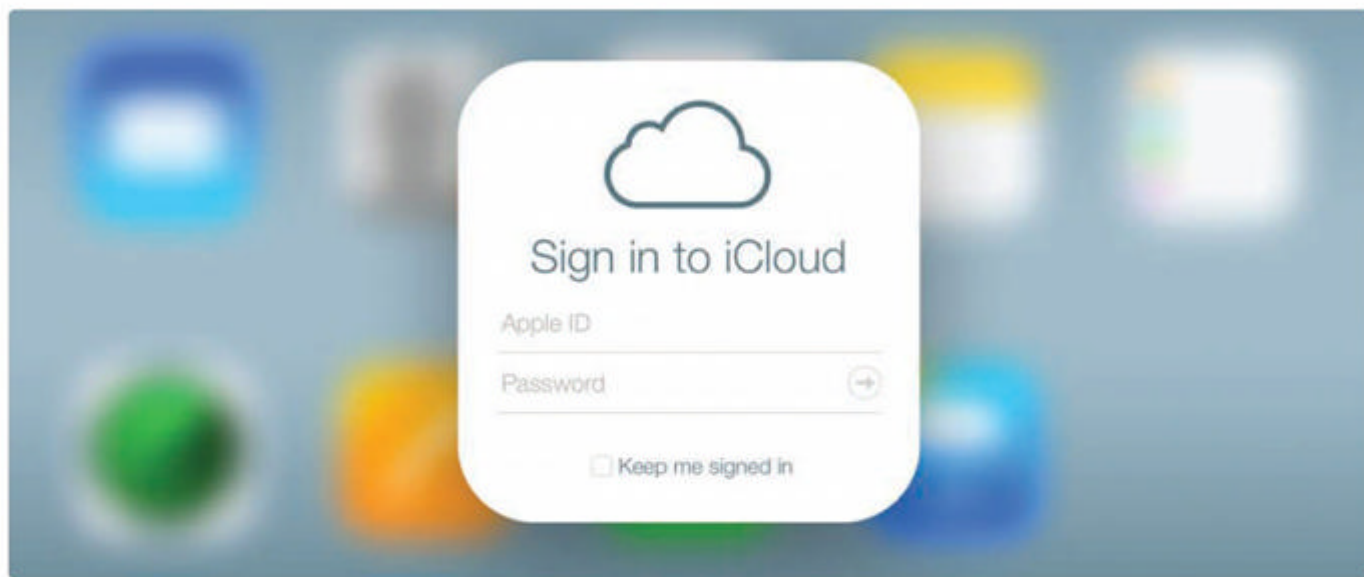
What's the best way to choose among those options? Your mileage may vary, but my own algorithm depends on the nature of the video call.

Scheduled calls. If you're planning recurring calls with your colleagues, the best advice I can give is to experiment, because what works for one pair of callers may fail for the next. Agree in advance that you'll use Skype for the first call, Google+ Hangouts for the next and so on. Regardless of which service you choose for a given call, have a backup plan – if the call starts stuttering or stalling, all the participants should know which provider they'll switch to, or whether to try a conventional phone call.

Impromptu calls to a colleague.

If I want to make an unscheduled video call to a colleague, my first step is to check the usual candidates to see if the person is online – Skype and Google+ Hangouts show participants' status, as does Messages for people in my Buddy List. (The status may be incorrect, but it's a good start.) If I can't ascertain a contact's online status with one of these services and I know the person is an Apple user, I try FaceTime. If none of those methods works, I use email, an instant message or a phone call to see what works for the other person.

First-time video calls. First-time calls are the trickiest, because most people feel less comfortable chatting with strangers by video than in a phone call. If the person lists a certain service (such as Skype or AIM) on a business card, letterhead or website, that's a fairly safe bet. Even so, the best idea is to give the other person a heads-up first via email. ☞



Without your Recovery Key, your Apple ID could be lost forever

Do you know where your Apple ID Recovery Key is? Keeping track of it could save your digital life. BY GLENN FLEISHMAN.

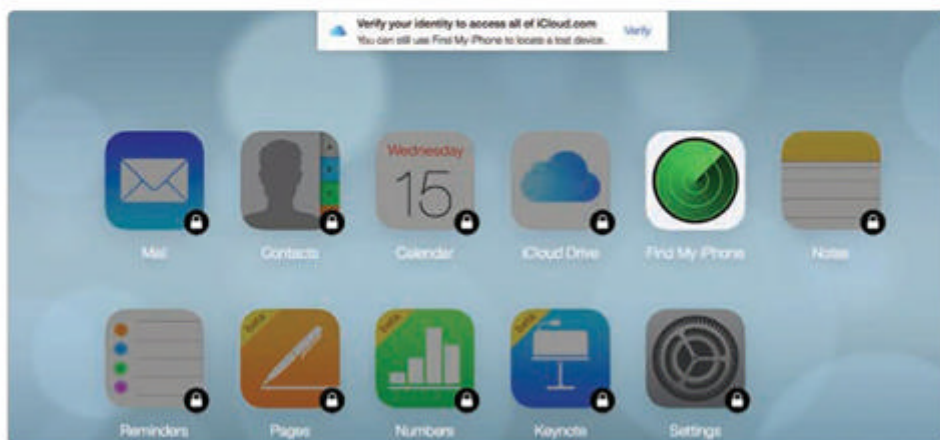
Here's a question that could change the rest of your digital life: where is the Recovery Key for your Apple ID account?

If you haven't enabled two-step verification on your Apple ID (or on multiple such accounts), you don't have to answer that question, because you don't have such an animal. If you have turned on this extra account protection, that question is vital, but don't panic quite yet if you don't have an answer.

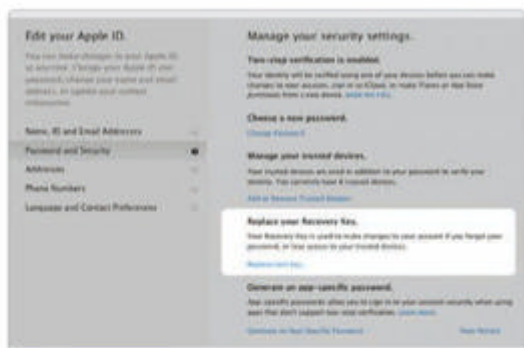
Owen Williams of The Next Web (tnw.co/1sePr87) documented the many hours of cold sweats he went through after someone attempted to crack his account, and Apple disabled normal access, as described in this support document (bit.ly/15Hls3L). He couldn't find his Recovery Key, and Apple said without it, his account data and access would be lost forever.

And that's true. Apple has designed its two-step recovery system, just like iOS 8's passcode protection and Mac OS X's FileVault encryption, so that if the necessary credentials are lost, the firm cannot recover your data. It's

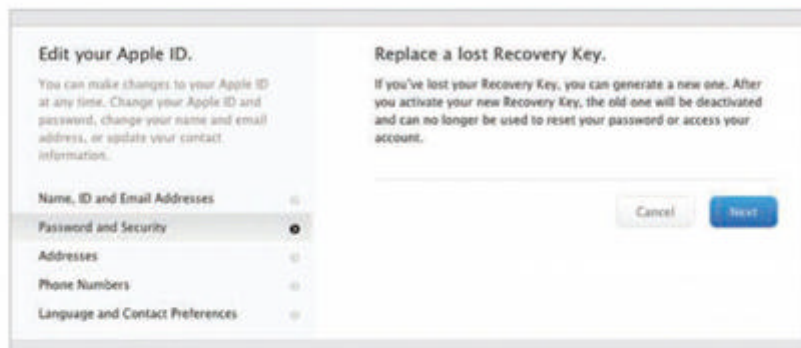
not just being perverse. Apple doesn't retain information in a way that lets it gain access without key pieces of data or devices only you possess. If it has the secrets, then attackers can gain them, too, or it can be compelled



Locked out. Without your recovery key, Apple can't let you back into your iCloud account – and you'll lose everything you don't have backed up locally.



Cutting a new key. If you don't know where your Recovery Key is, it's time to get a new one. (The old one is invalidated.)



One to rule them all. Unlike Google, which gives you 10 recovery codes at a time, you only get one valid iCloud Recovery Key.

to surrender them to government agents. (The one exception: FileVault offers an escrow option for your drive recovery key, but even then you have to provide precise information to Apple to unlock the encryption that's surrounding your key.)

The fact that an attacked account is locked means that a malicious party could even weaponise that behaviour into you losing your account access forever if you don't know where you stashed your Recovery Key. Some of us set up two-factor authentication nearly two years ago when Apple first offered it.

It's time to rummage through your records and make sure you have what you need to prevent someone from attempting to poke your account – or you fumble-finger entering the wrong password a few too many times in a row – into a digital-life disaster. If you can't find it, it's past time to reset your Recovery Key and figure out a better way to retain it.

(Owen had a happy ending: Digging through Time Machine backups, he eventually found a picture he'd taken that had the key and was able to get back into his account.)

RECOVERY KEY IS YOUR LAST-DITCH EFFORT

Apple built two-step verification around the notion that you'll always have access to at least two of three things: your password, a trusted device and your Recovery Key. If you lose your password, you enter the Recovery Key and get a message on a trusted iOS

device or phone. If you lose all your trusted devices, you can use your password and Recovery Key to add new ones. Lose the Recovery Key, and you can log in and generate a new one.

However, this goes out the window if someone repeatedly enters the wrong password for your Apple ID into any of the places that Apple lets you use that account information. It's as if your password were lost, because Apple has thrown it away. Now you absolutely need the Recovery Key, plus a trusted device.

It's unlikely you'll find yourself without all trusted devices, because Apple requires that you use SMS with at least one phone number, and a phone number isn't tied to a physical device. In fact, if you can't find your phone, and you've got iOS 8 installed on it, Yosemite on your Mac and the phone remains logged into the same iCloud account as your Mac, SMS forwarding will deliver a trusted-device token right to the Mac OS X Messages app. You can also get a carrier to put the number on another phone.


But that still means you need your Recovery Key. If you're using two-step verification, likely because you've read this far, where is it? Did you print it out, take a photo, stash it in a password or data storage program? Tattoo it on your bicep? Do you know? If you can't find it in less than five minutes, it's time to reset it.

Go to the Apple ID page (appleid.apple.com), click Manage Your Apple ID and log in, if you haven't already. Now you can click the Password and

Security item in the left navigation bar, and click Replace Lost Key. Follow the steps here, and your old Recovery Key is made invalid and a new one created.

Now, whether or not you just reset your Recovery Key, you need to keep good track of it from now on. And you need to ask yourself whether anyone else you know or any other location can be trusted with it, so that you're not a single point of failure. By itself, a Recovery Key has no value: someone needs that plus one of your trusted devices or your password.

Thus, it would be smartest to put a backup copy (not the only copy!) somewhere that you can gain access to it, but someone else can't, even if they hold it for you. Encrypt the key using ZIP-based archive encryption or an encrypted disk image via Disk Utility, put that on a USB flash drive, and give it to a friend or partner. Print it out, place it in an envelope, and put it into a safe-deposit box, or perhaps tape it into a drawer at your parents' or children's house. (For years, an old roommate and I had our alarm system emergency disable word taped inside a bookshelf for when we triggered it and inevitably forgot it.)

This is certainly a significant drawback to Apple's two-step verification: it's actually so strong, that you can find yourself locked out when you haven't reset your password – when you're the victim of an attack. You can avoid this by making sure you know precisely where your Recovery Key is from now on. 



What to do if your Mac refuses to accept your password

We offer tips for dealing with a Mac that won't accept a password.
BY TOPHER KESSLER.

Even though you can set up your Mac to automatically log into your user account without a password, your computer is going to be more secure if you use one. Of course, there's a slight danger that a day will come when that password doesn't work – you've modified your Mac in some way that's password-unfriendly or you've been negligent. Or you may simply forget what your password is, which can happen if you use a standard user account for daily tasks and haven't touched the administrator's account in a while.

Fortunately, if you have lost your password, there are several approaches you can take for either regaining complete access to your Mac or, at least, getting to the specific data you need. Here are some tips for doing just that.

RESETTING YOUR PASSWORD

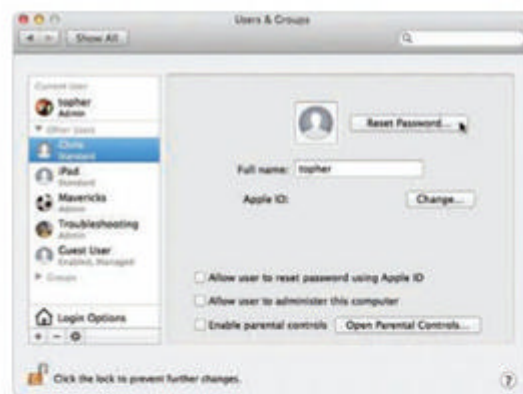
Apple includes several options for resetting account passwords in OS X. The approaches I outline below depend on how much access to your Mac you currently have.

Change it from an admin account.

To maximise your Mac's security you should have both an administrator account for administrative tasks and a standard account that you use for your primary identity (you can still perform administrative tasks from within your main account by authenticating with the administrator credentials). If you configure your Mac this way you can then log into the admin account and use the Users & Groups system preferences to change your main account's password.

To do this, click the lock icon in the Users & Groups system preferences to authenticate, and then click the account you can't log into. In the account's settings, click the Reset Password button to change the account's password.

Use Single-User mode. Every Mac has a main user account called 'root', which is the system account that's used to launch the essential background services required for your Mac to operate. While this account is generally hidden and inaccessible, you can quickly get to it for its

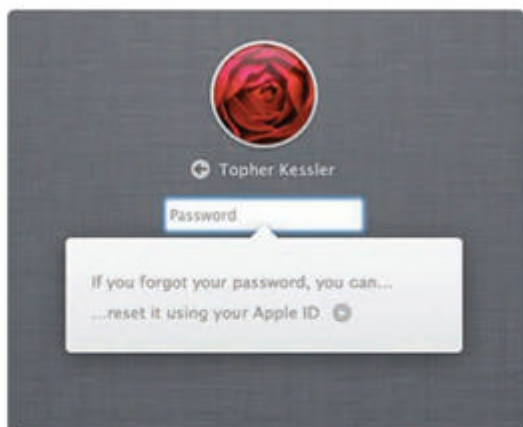


Override it. Log into your administrator account to change another account's password.

administrative capabilities by booting your Mac into single-user mode.

To proceed you'll need to know the short name of the account for which you would like to reset the password, and then perform the following steps:

- restart your Mac and hold down `⌘-S` at the boot chimes
- when you see the command prompt, enter the following command to put the boot drive into read and write mode: `mount -uw /`
- now run the following command to load Open Directory (Apple's



Remember your Apple ID. Enter an incorrect password three times and you'll be prompted for an Apple ID.

account directory service in OS X):
[launchctl load/System/Library/LaunchDaemons/com.apple.opendirectoryd.plist](#), and

- reset the password for your user account by entering the following command (replace 'username' with the short name of the desired account) `passwd username`.

Use an Apple ID. In OS X you can bind your user account to your Apple ID and then use it to reset your OS X password if you've lost it. This feature first requires that you've associated your Apple ID, which can be done by going to the Users & Groups system preferences, and then clicking the Set button next to the words 'Apple ID' and then supplying your Apple ID and password. You can then enable the option to allow resetting your password using an Apple ID. (If you instead see a Change button next to the Apple ID entry, your ID is already associated.)

With this set up, you can reset your password by entering the incorrect password three times on the login screen, which will invoke a panel that prompts you to reset the account's password using your Apple ID. Follow the on-screen instructions and you should be able to change your password and then log into your account.

Note that of the options I present here, this one should preserve the link to your keychain, allowing you to continue working seamlessly with your

new password, without having to store other passwords in your keychain again.

Use Recovery Mode. A final option for resetting your password is to use Apple's recovery tools. This will perhaps be the easiest approach in most cases, and can be done with the following procedure:

1. Reboot into Recovery mode or Internet Recovery by holding `⌘-R` at startup.
2. Choose Terminal in the Utilities menu.
3. Enter `resetpassword` (all one word, and lowercase) in the Terminal window and press Return.
4. Select your boot drive in the utility that appears.
5. Choose your user account from the pop-up menu.
6. Click the button to reset the account's password and supply a new one when prompted.

If you use FileVault encryption with your Mac, the password reset utility will not show your boot drive until you first unlock it with Disk Utility. To do this, open Disk Utility where you will see your drive greyed out in the list of devices. Select it and click the Unlock toolbar button and then, after supplying your password to unlock the drive, you can select your disk in the password reset utility.

RECOVERING YOUR DATA

The options I've mentioned will help you reset your password and log into your account. However, if you still can't get into your Mac because of a lost or forgotten password there's a way to get some of the data off it. That way is Target Disk mode.

Target Disk mode lets you access your Mac's hard drive as an external drive, provided that you don't have FileVault enabled or a firmware password set on your Mac. If you do have FileVault enabled and can't

remember either your password for unlocking the drive or the drive's recovery key, then you won't be able to recover any data from it. In this case your best bet is to retrieve your data from a backup.

To use Target Disk mode, restart the Mac you wish to access and hold the 'T' key when you hear the boot chimes. Connect this Mac to another one via either a FireWire or Thunderbolt cable and its hard drive should appear as an external drive to your second Mac. From here you can manually copy data from the drive or use Apple's Migration Assistant or Setup Assistant tools to transfer your data.

While you should be able to browse all files on the drive in Target Disk mode, there may be some times when you can't do this, either because of permissions restrictions or because files are hidden. To overcome this, you can select the drive mounted via Target Disk mode, press `⌘-I` to produce the drive's Info window and enable the option to ignore ownership on the volume (at the bottom of the information window). To manage hidden files, you can temporarily show all files in your current Mac's Finder by running the following command in the OS X Terminal app:

```
defaults write com.apple.finder AppleShowAllFiles -bool TRUE; killall Finder
```

When you're finished accessing these files, hide your files again by using this Terminal command:

```
defaults delete com.apple.finder AppleShowAllFiles; killall Finder
```

A SAFE HAVEN

Much as recovering or resetting a forgotten password may sound like a bother, it's a small inconvenience that's entirely trumped by a Mac protected with a solid password. Ideally you'll never need to turn to these techniques. But should the bad thing happen, it's nice to know you have so many fallbacks. 🐼



20 keyboard shortcuts that can make you a more powerful Mac user

BY CHUCK LA TOURNOUS.

If you've used a Mac longer than the span of a typical Hollywood awards show, you probably know that ⌘-P means print, ⌘-C means copy and ⌘-V means paste. That's great – it shows you already have a taste for how keyboard shortcuts can save you time.

There are hundreds of keyboard shortcuts for just about anything you can do with a mouse. But shortcuts can be intimidating. They're not always intuitive and they can take a lot of time and practice to commit to 'finger memory'.

Adding just a few keyboard shortcuts to your repertoire can be painless and easy. And painless in

more ways than one, since shortcuts mean spending less time on the mouse, which in turn means a lower risk of Carpel Tunnel and Repetitive Stress Injury (RSI).

Let's take a look at three of the places where you probably spend most of your time on the Mac and see how keyboard shortcuts can make you more efficient.

THE FINDER

You may not think of it as an application at all, but the Finder is the glue that holds the rest of your Mac experience together, and you probably spend more time here than you realise.

If you want to get to the Finder (or, if you prefer to think of it this way, your desktop), but you can barely see it through all the open application windows, there's a way to clear things



Clean up. Keyboard shortcuts can take you directly to specific folders, or unclutter your desktop in an instant.

up in a snap. Hold down the ⌘ and Option keys and click anywhere on your desktop. That key combination takes you to the Finder while hiding all other applications at the same time. If you're already in the Finder, type ⌘ -Option-H for the same effect. (By the way, this shortcut isn't only for the Finder – holding ⌘ -Option as you click on any application will simultaneously hide all your other open apps.)

But what if it's open folders and not apps that are cluttering your desktop? There's a shortcut for that too: ⌘ -W (think 'Withdraw Windows') will close one window; ⌘ -Option-W will close them all in one fell swoop.

To get to your Applications folder from the Finder without having to dig down through your hard drive, just type ⌘ -Shift-A, for Applications. (Similarly, ⌘ -Shift-U will bring you straight to the Utilities folder.)

You may already know that typing ⌘ -Space will invoke Spotlight. While it's open, type the first few letters of the application, folder or file you're looking for and Spotlight will likely find what you're after before you finish typing its name. Pressing Return will open the object of your search.

To give credit where it's due, Windows had it first, but there's a keyboard shortcut that will let you cycle through all your open applications. Hold down the ⌘ key and tap Tab. You'll see a nice big bar that displays all your open apps. Each tap of the Tab key will take you to the next application, from right to left. Want to go the other way? Hold down the Shift key in addition to ⌘ and Tab through your apps in reverse.

There are a couple of other neat tricks that Apple added to the ⌘ -Tab shortcut. While any app is highlighted, tapping the H key will hide it and tapping Q will quit it. If you haven't quite mastered the art of the neat desktop, these shortcuts will become indispensable in short order.



Switch. The ⌘ -Tab application switcher is the foundation for a slew of useful keyboard shortcuts.

MAIL

There are lots of keyboard shortcuts in the Mail app as well, but learning just a few can have a big impact on your email habits.

You can choose how often Mail checks for new messages in its preferences, but you always have the option of manually checking for new mail. To do so without having to visit the Mailbox menu, type ⌘ -Shift-N (for New messages.) Leave out the Shift key and ⌘ -N will create a new, blank message.

If you want to add an attachment to your message, a keyboard shortcut is a much faster way of getting the job done. With a draft message open, type ⌘ -Shift-A and you'll get a dialogue box ready to navigate to the file you want to attach. (Here's a non-keyboard shortcut tip: if the file you wish to attach is visible in the Finder, just drag it on top of this dialogue box and it will be ready to send.)

Finally, there's no need to pick up your mouse and click on Send. Type ⌘ -Shift-D ('Deploy?' 'Deliver?') and your message will be on its way.

SAFARI

We spend a lot of time in our web browsers these days and even a few seconds saved by using keyboard shortcuts can make a big difference over time. Here are some favourites you may have overlooked.

For the fastest way of getting to the address bar and entering a URL, try ⌘ -L (for 'Location'). That puts your cursor in the address bar so you can

immediately start typing. When you've entered your URL, just hit Return and you're on your way.

When you get to the bottom of the screen, don't reach for your mouse to scroll. Instead, press the spacebar and Safari will jump down a screen. (Press Shift-Space to jump back up.) Looking to navigate a little farther? Function-Left Arrow and Function-Right Arrow will bring you to the top and bottom of the current web page, respectively. (Note that the Function key on third-party keyboards may not work with shortcuts like these.)

Keyboard shortcuts even let you navigate between pages. Type ⌘ -Left Arrow to go to the previous page and when you're ready to go forward again, type ⌘ -Right Arrow.

What if you want to navigate between multiple tabs? Keyboard shortcuts to the rescue. Type ⌘ -Shift-[to jump to the next tab and ⌘ -Shift-] to jump to the previous one. And if you have multiple windows open in your browser (or pretty much any application), ⌘ -` will cycle through them.

THE LONG AND SHORT OF SHORTCUTS

The biggest hurdle to becoming proficient with keyboard shortcuts is allowing them to overwhelm you. Even these 20 or so shortcuts may be a lot to absorb at first. But if you start with just a few at a time – or maybe just one of the applications discussed here – you'll soon see that they make you a more efficient Mac user. 🐼

STM READER TIP

Undo it

For those of us who work or type regularly on our iOS devices, there is a little known tip that allows us to undo an error when writing a message, searching in Safari, sending an email or editing a photo. Rather than repeatedly hitting the delete key, shake your device and the undo option will pop up. If you would like to undo your previous action, select Undo, or if you shook it by accident, select Cancel.

Peter T.

EACH MONTH, STM gives a prize to the *Macworld Australia* reader who submits the best and most useful tip (undocumented tips preferred). This month's prize is a comfortable and portable STM sequel small laptop shoulder bag worth \$99.95.

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? MAKING MORE OF MIGRATION ASSISTANT

Can I use Migration Assistant to transfer my data from my old MacBook Air (that's running Mavericks) to my newer MacBook Air (which came with Yosemite installed)? Or must I upgrade my old Mac to Yosemite first? (I would rather not update to Yosemite on the old one just yet.)

Bob White

Well then, today's your lucky day! Migration Assistant in both Mavericks and Yosemite can copy data between your new Mac and another Mac running a version of the Mac OS as old as Snow Leopard (OS X 10.6.8). Apple suggests (support.apple.com/en-au/HT5872) that if you want to migrate data from a Mac that's running a version of OS X created before Snow Leopard, you either update that Mac to a compatible version of OS X or transfer the data manually.

While we're on the subject, there are a few additional things you should know.

Same name. If you're transferring data between two user accounts that have the same name ('bob' and 'bob', for



example), you can choose to replace the 'bob' account on the new Mac with the 'bob' account from the old one. Or, you could set up a completely new account in addition to the existing 'bob' account – one called 'robert', for instance.

You'd choose the first option if the 'bob' account on the new Mac has no files on it that aren't on your old Mac. (They'll be overwritten, if so.) And, as you might guess, if you've already put a load of stuff in the new Mac's 'bob' account and want to keep it there, it makes sense to create an additional account. You can then copy files from one account to the other, if you like.

Making connections. If you have a lot of data on the old computer, it has a Thunderbolt port, and you have better things to do than to wait hours for your data to move from one machine to another, I urge you to get a Thunderbolt cable and use it to connect the two Macs. If you'd prefer to save the dollars on the cable and don't mind your Macs working away as you sleep, feel free to use a Wi-Fi connection. (But if you have a lot of data it still may not copy from one Mac to the other in the space of one night.)

Or use Time Machine. If you've been backing up your old MacBook Air to Time Machine you may be able to skip this whole computer-to-computer rigmarole. Migration Assistant is happy to pull data from a Time Machine backup as well. (You'll see that option when you run Migration Assistant on

your new Mac.) Ideally, you'll have your Time Machine drive plugged directly into your new MacBook rather than access it over the network as speed, again, is an issue with a network transfer.

? HOW TO SHARE FILES BETWEEN OS X USER ACCOUNTS

In the column above about making the most of Migration Assistant I make the off-hand remark that it's no big deal to move files from one account on your Mac to another. If moving files between accounts isn't entirely clear and possibly the answer above causes concern, I'll provide the details now.

We start with the understanding that OS X is designed as a multi-user operating system – one where files stored in one account are not easily accessible in another. For example, if Susie and Chris share a Mac, Susie should not be able to see the contents of Chris' Documents folder while working in her account and vice versa. If Susie tries, she'll see that Chris' Documents folder bears a red 'no trespassing' icon indicating that her way is barred.

There are ways around this. You could, for example, change permissions on another account's folders if you know that account's administrator password. Or you could log in as root, which grants you permission to everything on the drive. Each of these techniques, however, is considered sneaky by the best sorts of people.



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Fortunately, the Mac OS makes accommodations for those people who wish to share files with others using the same computer. One of them is the Public folder found in each user's account. Unlike the Desktop, Documents, Downloads, Movies, Music and Pictures folders, this one bears no red icon. It's where you place files that you want to share with others. When someone in another account wants whatever it is that you've placed in the Public folder, all they need do is open it and copy its contents to their account.

You can also push files to other users by dragging files to the Drop Box folder within each user's Public folder. This is a 'one-way' folder in that you can copy files to another account's Drop Box, but only the person logged into that account can see the folder's contents.

If, on the other hand, you want to make files available to anyone using the computer there are a couple of ways to do that. One is to drag files to another drive or partition attached to the Mac. Another is to use the Shared folder inside the Mac's Users folder (found at the root level of the startup drive).

The Shared folder's permissions are Read & Write, across the board. It was designed for exactly this kind of thing – easily moving files between accounts. I use the technique often enough that I've created an alias of the Shared folder and placed it in the Finder sidebar, making it easy for me to move files between accounts.

? WHAT'S THE BEST WAY TO MAINTAIN MEDIA FOR ETERNITY AND BEYOND?

I'm in the process of cleaning out my iMac – removing data that's not current and apps that I don't use or won't work under Yosemite. Because I've done this before and been stuck with unreadable media, what's the best way of archiving

Compatible. Apple's changes to iWork over the years should provide a little warning.

digital material so that it can most likely be retrieved in the future if desired?

Kirk Edgar

Given that my prophetic powers are no more honed than the average guy who writes on the internet, I can't, with absolute certainty, tell you which formats will and won't survive. But I can offer some guidelines.

You need spend only five minutes with a dedicated AppleWorks user to get a hint of how painful it can be to lose files because their format has been relegated to the dustheap. Much as you may prefer working with App X, if it's a not-terribly-popular app and it saves files in a proprietary format, you could be looking at trouble down the road. At the very least, when saving files and presented with the option to make an additional copy in a popular format, seize it. This may not result in a file as editable as you may like, but at least you have some kind of copy that you can work with at a later date.

I'm not suggesting that you delete any original files. They still work and may continue to. I'm simply saying that having a copy in a different (and popular) format can't hurt.

Again, sorry to twist the knife, but there were plenty of signs that ClarisWorks/AppleWorks file formats were going the way of the dodo long before they vanished entirely. Apple stopped updating AppleWorks, which should have hinted that it was time to move on. In those days you could still convert many (though not all)

ClarisWorks and AppleWorks files to common file formats with relative ease, using tools such as DataViz's MacLinkPlus Deluxe (en.wikipedia.org/wiki/MacLinkPlus_Deluxe).

Yet even with these hints, many AppleWorks users stubbornly continued to create files that were soon to be obsolete. By the time these folks accepted that their beloved application suite was well and truly dead, it became that much harder to convert their files, as the necessary tools became unavailable or incompatible with the modern Mac OS. Don't be that person.

When considering the best formats to use for your media and files, take a look at the formats adopted by large corporations and governments. For example, the vast majority of online forms are saved as PDF files. While Microsoft may change the way Word files are saved (and heaven knows we've seen changes in Apple's iWork formats), PDF looks like the solid bet for preserving formatted text. And plain text has been around forever and I can't image that it won't be for years to come. It's not formatted, but at least it's readable.

In regard to media, you want to look for formats that are both popular as well as unmucked-with.

Images. For example, when archiving images I might choose to keep both the original raw files as well as JPEG copies. With the former I'll hopefully continue to have access to all the data the original image contained. With the latter – because it's such a popular format – there's every chance that I'll be able to view that image decades from now. (If I wanted to be doubly careful I might make an uncompressed TIFF copy of important images.)

Audio. For audio files you can look at AIFF and WAV, which are both popular and uncompressed. MP3 isn't going anywhere anytime soon, but it is a compressed format. Apple Lossless sounds great, but it's a format largely restricted to Apple devices.



Video. When we talk about video, we're thinking of your personal movies rather than commercial releases. (Don't worry, even into the 24th century, Disney will find a way to sell our bunker-dwelling descendants cave-painted copies of *The Lion King*.)

Check Google for the most common movie file types and you'll find the first hit lists Windows Media, QuickTime, Real Media, MPEG, DIVX and Flash formats. That may have been a lovely list when it was first put together, but if you know anything about movie files you're chuckling right about now. Some of these formats are all but dead and others will be soon enough.

At this particular point in time MPEG-4 (particularly the H.264 variant) looks like the best bet as it's widely used for streamed and downloaded video as well as for Blu-ray discs. It's typically a lossy format, but high bit rate files can look amazing. Fortunately, you needn't make a decision right now. Keep your original files in the format you prefer – QuickTime, for example. As you see standards change, consider creating copies in the flavour of the decade.

Something else to consider is how you back up your data. It's all well and good to create copies of it in forms likely to work on into the next several decades, but if the device or service you've archived it to gives up the ghost a year or two from now, then where are you? It's for this reason that you should have redundant backups of the files and media most precious to you. For now, that means hard drives and online storage. (And hey, what's wrong with printing your images and text?) If you're really serious about this, I urge you to read Rob Griffiths' *The Paranoid Person's Guide to a Complete Mac Backup* (February 2015). Implementing one's entire workflow is overkill for... well, just about anybody. But it offers some great backup strategies.

At the risk of unearthing a painful personal memory, a couple of years ago my child and I stood before my

vinyl collection while I proclaimed, with a magnanimous sweep of my arm, "Some day this will all be yours!"

To which my spawn replied, "I will bury them with you."

And that about sums it up. Precious though you may believe your every image, movie and file, there's a good chance that some of them need not be preserved. Culling your stuff now (rather than leaving it to others) will make managing your remaining data easier.

? WHAT'S THE BEST MEDIA FOR LONG-TERM STORAGE?

■ **What is the best physical media to store archives on?**

Karen Bauer

If we allow history to be our guide, I'd suggest stone tablets – able to withstand just about any natural catastrophe you throw at them, but murder when it comes to editing.

Silliness aside, there is a small lesson here. For certain kinds of media it's helpful to have them in the most readable form possible. Printing text and images eliminates the translation issue – where a format has gone the way of the dodo and you don't have the technology to read it. But this kind of storage is then subject to degradation from the elements – one good flood and your media is soggy toast. Plus, putting it in a purely physical form may require a lot of physical space to store it.

The truth is, apart from a purely physical representation of that media, we don't have a perfect solution. Tape was once the storage medium of choice for those who needed loads of capacity without a lot of fuss or bother. Turns out magnetic media of all kinds (floppy disks, for example) isn't terribly robust and degrades over time.

Later, we were assured that CD and DVD media was the answer. The stuff was supposed to last for a century. Not so much. A variety of conditions can



cause this media to break down or become unreadable. (Or it may have been flawed from the get-go.)

And then we have the hard drive – spinning magnetic media. Should something cause a drive to stop spinning or the media to get scrambled, whatever was stored on the drive could be lost (or, at least, difficult to recover). And solid state storage has hardly proven to be the forever media we seek – it too can lose data or simply stop working.

Until that perfect solution appears we'll have to muddle along as best we can. One path to successful muddling is creating redundant copies of your most important media. For instance, if you've just finished editing your video masterpiece, it makes sense to place copies of the raw data and an edited version on a couple of hard drives you own (and store them in different locations), burn a couple of copies to Blu-ray media and upload those same couple of copies to two or three different online storage services. I can't imagine how you could more thoroughly cover your bets.

But you can't stop there. You don't want to be the person who stored their media on floppy disks, later moved it to Zip disks and then figured they'd done everything necessary. You have to pay attention and be ready to take advantage of new storage and archival options as they appear.

Nope. These are not the miracle media you are looking for.

? EXPLORING THE MANY MIRACLES OF IMAGE CAPTURE

What is Image Capture?

What does it do?

Colin Pritchard

Apple's pretty good about giving apps and services descriptive names. Image Capture is no exception. It pulls still images and movies from compatible connected devices such as scanners, iOS devices, cameras and removable media. And it's included with every Mac. You'll find it in the Applications folder. In the screenshot on the opposite page you can see that connected devices appear in the Devices pane. In this case you find my connected scanner, an iPad Air, an SD card reader and the hard drive of a camcorder connected via USB. In the main portion of the window you find a lot of information about the images a device holds. But Image Capture can do more. Such as:

Scan documents. Although your scanner likely ships with some kind of software, you may not need it as Image Capture can take care of basic scanning chores. Connect a scanner to your Mac, fire up Image Capture, select the scanner in the Devices pane and click the Show Details button at the bottom of the window to see just what Image Capture can do with your scans. You may be surprised by the number of options you find.

Assign a default photo app.

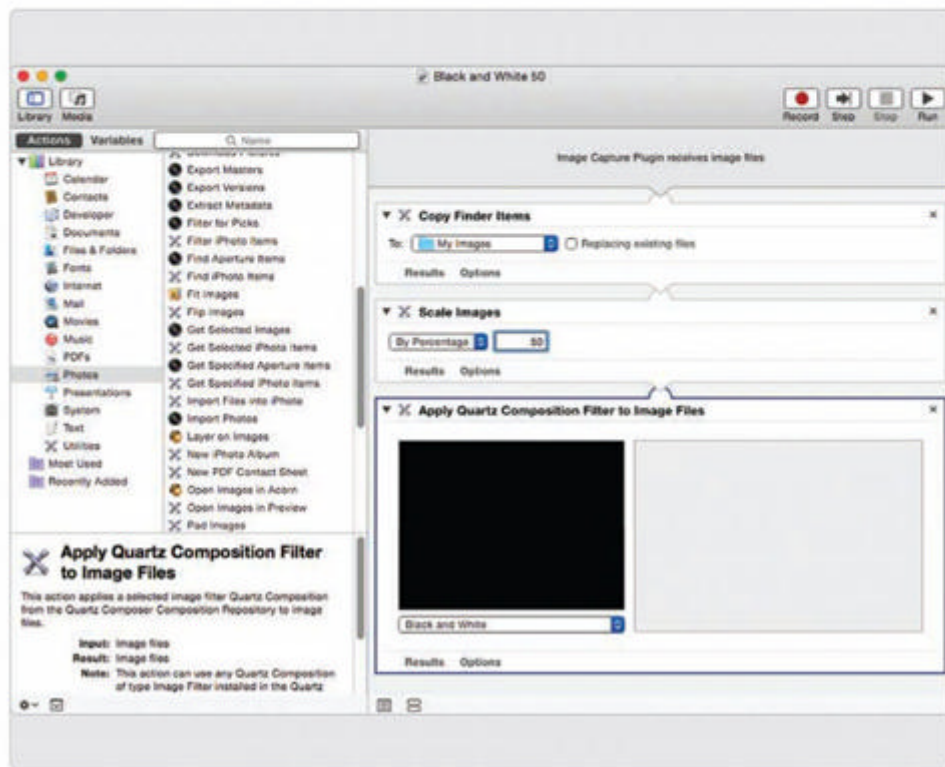
Normally, when you plug your camera or iOS device into your Mac, iPhoto launches. If you'd like a different app to launch – Adobe Lightroom, for example – you can make that happen in Image Capture. Just click on the small triangle at the bottom-left of the Image Capture window to expose the Application pop-up menu. Now select a connected device and, from that pop-up menu, choose Other. In the sheet that appears navigate to the app you'd like to open when you connect the selected device.

Automate it. Automator and Image Capture provide a way to process images as you import them.

Automatically import images.

Hidden in the depths of your Mac's System folder is an app called AutoImporter (the path to it is Mac HD > System > Library > Image Capture > Support > Applications). If you select a device and, from the Applications pop-up menu, choose AutoImporter, any time you insert that device, its images will be automatically imported into an AutoImport folder within your user folder's Pictures folder. If you're looking for an easy way to pull all the images off a camera or storage card, this is it.


Create a contact sheet. Select some images and, from the Import To pop-up menu, choose MakePDF. Click the Import button and a MakePDF app launches and creates a contact sheet from the selected images. You're welcome to change the size of the thumbnails by selecting a different size from MakePDF's Layout menu. When you save the file it will be saved as a PDF.

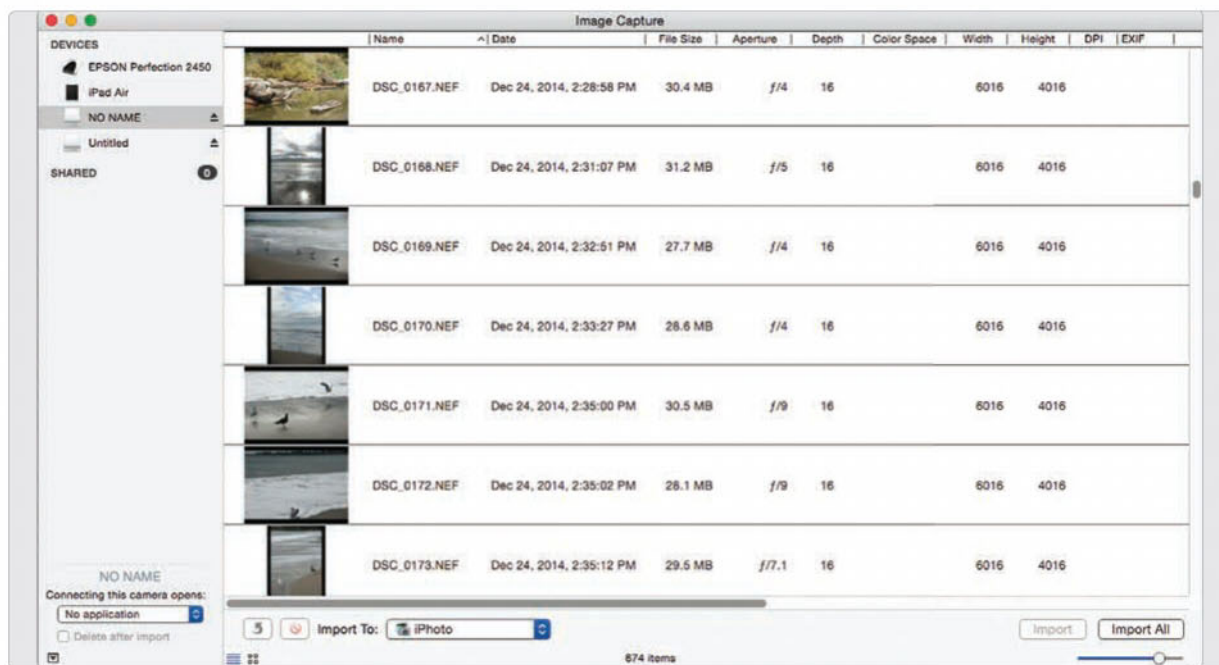


Build a web page. As you clicked on that pop-up menu you may have noticed a Build Web Page option. When you choose this option, select some images and then click Import, the images will appear as thumbnails on a web page that opens in your Mac's default browser. Click on an image and you'll see a larger version of it. Click the larger image to return to the thumbnails page.

Process your images with Automator.

Apple's automation app, Automator, includes an Image Capture Plugin workflow. With it you can build a workflow that, for example, resizes your images and converts them to black and white. When you create and save one of these workflows it appears in the Import To pop-up menu. Select some images, choose the workflow, click Import and the actions within your workflow will be executed.

In short, Image Capture packs a load of utility. If you haven't taken time to explore it, you should. 



From the source.
Image Capture pulls still images and movies from compatible connected devices such as scanners, iOS devices and cameras.

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Printers

Depending on your home or office needs, the huge range of printers on the market can make a purchasing decision difficult. ADAM TURNER lends a hand.

Canon PIXMA MG7560

This Canon relies on six ink cartridges – along with cyan, magenta, yellow and black, there's room for photo black and photo grey to add extra depth to your prints. As a result, it produced the best A4 photo prints of the bunch, with plenty of detail, vivid colour and impressive depth.

The printer features a built-in 3.5in screen and is also a scanner and copier, but there's no built-in fax machine. It offers automatic double-sided printing and you'll find two A4 paper trays on the front at the bottom, holding 125 and 20 sheets with the ability to print on discs. There's no rear paper feeder, nor is there an automatic document feeder on top for scanning multi-page documents.

Along with a rear USB 2.0 port for connecting to your computer, there's both Ethernet and Wi-Fi for joining your home network. Alternatively, you can use Wi-Fi PictBridge printing with compatible Canon cameras or print from the built-in SD memory card slot, but surprisingly there's no front USB port.

If you're printing directly from handheld gadgets, you can take advantage of AirPrint and Google Cloud Print, or else simply email documents directly to the printer. There's also built-in NFC (near field communication) for fast pairing with some devices, but not iGadgets.

The Canon's weakness is the painfully long lag before it prints out the first page of a text document, making you wait up to two and a half minutes before it gets to work. After that it still takes 120 seconds to churn out each double-sided page of text at the 'best' setting.

Bottom line. With excellent photo prints, Canon's MG7560 is the pick of the bunch for keen photographers.



\$189 / CANON
www.canon.com.au

PROS Six-colour; great photo prints

CONS Slow printing; no automatic document feeder

Epson Expression Premium XP-720

This Epson is a five-colour inkjet printer, with a photo black ink tank alongside standard black, cyan, magenta and yellow. Photo prints look very good, but fall just short of the Canon MG7560 – the Epson's XP-720 A4 prints are sharp but not quite as vivid or deep.

This printer has the smallest footprint of the bunch, which is handy if you're trying to fit it on a bedroom desk. It features a large 4.3in display and has a built-in scanner and copier, but no fax facilities. It also lacks an automatic document feeder on top for scanning multi-page documents, but you will find a rear paper feeder for printing on thicker stock that is reluctant to bend. There's also a 100-sheet A4 front paper tray, which supports automatic double-sided printing and can also print on discs.

When it comes to connectivity, you'll find USB 2.0 as well as Wi-Fi for connecting to your home network, or you can make a Wi-Fi Direct connection. The printer is missing an Ethernet jack. On the front you'll find both SD card and USB slots, but there's no PictBridge support.

This Epson's strengths shine through when it's time to pump out pages of text. The best mode starts printing within 20 seconds and spits out a double-side page of text in 80 seconds. It's slow to flip the pages, so you'll see even faster print times if you opt for single-sided pages.

Bottom line. A great all-rounder, Epson's Expression Premium XP-720 may win over students looking for a versatile device.



\$249 / EPSON
www.epson.com.au

PROS Five-colour; fast printing

CONS No Ethernet; no automatic document feeder



OUTSTANDING



VERY GOOD



GOOD



FLAWED



UNACCEPTABLE

59

APRIL 2015
www.mactworld.com.au

HP Officejet Pro 6830

Along with printing, scanning and copying, this HP is also a fax machine. It features a generous 225-sheet A4 paper tray, with automatic double-sided printing. There's no secondary tray or rear paper slot, but there is a 35-sheet automatic document feeder on the top for scanning multi-page documents without needing to manually feed it pages.

The Officejet Pro 6830 is only a four-colour inkjet printer, relying on the same black ink tank for photos and text. Considering this, the photo prints aren't too bad; there's surprising depth, although they're a tad murky in the shadows compared to the Canon and Epson.

You'll find USB 2.0 on the back for connecting to your computer, along with Ethernet, Wi-Fi and Wireless Direct. There's a 2.6in display on the front accompanied by a front USB port, which you can scan to or print from. There's no SD card slot – as you may expect from a printer designed more for work than play.

The HP supports AirPrint for printing from iGadgets along with Google Cloud Print and the Mopria standard for printing from a range of Android devices. You can also call on the HP ePrint ecosystem, letting you email documents to the printer and tap into cloud services, including activity sheets for kids. You can access Google Drive, but you're missing direct access to business-focused services such as Evernote, Dropbox and Box (turn to the mobile apps for this).

If you're churning out essays and business reports, you'll appreciate that the HP is the fastest of the bunch when it comes to spitting out page after page of text at 'best' setting. It starts printing the first page in a respectable 12 seconds, after which it shoots out a double-sided page of text in 42 seconds.

Bottom line. A business-centric workhorse that also pumps out reasonable photo prints, HP's Officejet Pro 6830 may appeal to those setting up a home office.



\$179 / HEWLETT PACKARD
www.hp.com/au

PROS Faxing; fast printing

CONS Single paper tray; four-colour

Brother MFC-J4620DW

This Brother is an A4 printer, copier, scanner and fax machine. It has a shallow design, which is good for small spaces, because it prints sideways rather than longways. One advantage of this is that you can slide an A3 sheet into the rear feeder to print on large pieces of paper – which may be handy for school projects and other custom jobs.


There's a 20-sheet A4 automatic document feeder on top, which folds flat to make it easier to sit things on top of the printer when you're not using it. The printer also features a 150-sheet A4 paper tray.

The MFC-J4620DW sports a 3.6in screen, with front MS Duo and SD/MMC card slots, as well as USB with PictBridge support. On the back, you'll find USB 2.0 and Ethernet, along with Wi-Fi including Wi-Fi direct access. There's NFC for fast pairing with some devices, but not iGadgets because Apple locks down NFC access.

You can call upon AirPrint and Google Cloud Print to print from a range of devices, plus there are Brother apps that you can send files to and from a range of cloud services including Picasa, Flickr, Facebook, Google Drive, Evernote, Dropbox, Box and OneDrive.

This Brother is a four-colour inkjet printer, like the HP Officejet Pro 6830, although the Brother's photo prints don't look nearly as good. They look washed out, flat and short on fine detail in comparison with the HP.

While it looks like an office workhorse, the Brother is surprisingly slow when it comes to spitting out pages of text at the 'best' setting. It starts printing within 10 seconds, the fastest of the bunch, but then it takes 123 seconds to produce a double-sided page of text.

Bottom line. A small unit that can go large, Brother's MFC-J4620DW will appeal to those who need the occasional A3 print. 



\$229 / BROTHER
www.brother.com.au

PROS Fax

CONS Slow printing; disappointing photos



First look: Photos for OS X

Apple's iPhoto replacement brings easier navigation and more powerful editing.

Last June, Apple announced that it would stop development of its Aperture and iPhoto apps and offer a single photo app in their place – Photos for OS X. Now, developers are getting their first glimpse of Photos, as it's bundled with the beta version of OS X 10.10.3.

Providing many of the features found in its mobile sibling, the Yosemite-only Photos for OS X offers an interface less cluttered than iPhoto, improved navigation, simpler yet more powerful editing tools, the ability to sync all your images to iCloud (though it doesn't require you to), and new options for creating books, cards, slideshows, calendars and prints. I've had the opportunity to take an early look at Photos, and this is what I've found.

THE LOOK

Photos has inherited some design elements from Apple's latest operating system as well as from iOS's Photos app. For example, there's a measure of transparency near the top of the window, reflecting the images behind it rather than

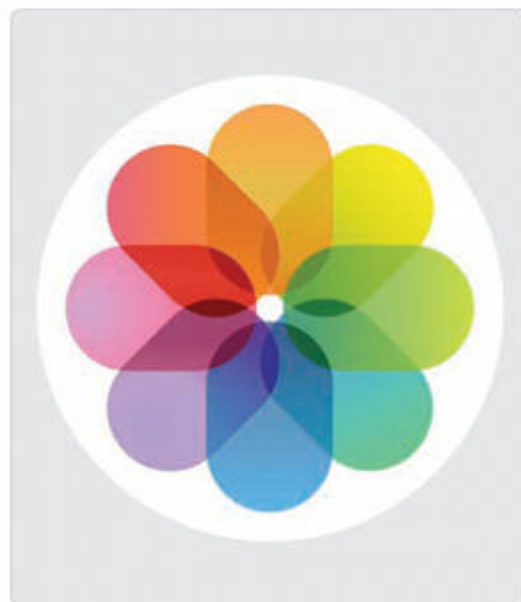
the desktop. Toolbar items bear Yosemite's thinner design and, like iTunes 12, you'll find buttons that provide you with different avenues for viewing your content – Photos, Shared, Albums and Projects. (An Import button also appears when you've connected a compatible camera, mobile device or media card.)

VIEWING IMAGES

To view a photo at a larger size, just double-click on it. When you do this you have the opportunity to mark it as a favourite (by clicking a Favorite button in the toolbar). Photos has dispensed with star ratings, however. Now you simply choose to mark an image as a favourite or not.

When viewing a single image you can get and edit information about it. Just click the Info button and a window appears where you can add a title, view some EXIF data, see the image's location if it has been geotagged, add keywords and add the identity of faces within the image. You can select multiple images, press ⌘-I to produce the Info window, and add keywords that apply to each selected image.

You can also click a Plus button to add your image to an album, smart album or project. And by clicking on the Share menu you can send that image elsewhere – to iCloud Photo Sharing, Mail, Messages, AirDrop, Twitter, Facebook and other services available from within the Share Menu via Yosemite's Extensions system preference.



EDITING YOUR IMAGES

Photos, like the iOS version, presents editing as a collection of tasks.

When you view an image and then click Edit in Photos' top-right corner you're presented with a list of tools – Enhance, Rotate, Crop, Filters, Adjust and Retouch. Enhance does what it did before – takes a guess at what might look good and applies those changes. Rotate does exactly that in 90-degree increments. Filters offers up eight tasteful filters: Mono, Tonal, Noir, Fade, Chrome, Process, Transfer and Instant. And you use Retouch to remove spots and blemishes (including sensor dust) with a resizable tool. Crop and, particularly, Adjust need more explanation.

Crop not only lets you cut away unwanted material by dragging corners and borders, but provides a wheel similar to the one in Photos for iOS that you use to straighten your image to a grid. Or, if you like, you can simply click an Auto button and Photos will calculate the horizon line and straighten and crop the image for you, using the rule-of-thirds to place the important portions of the image within the frame. Within the Crop tool you can also choose an aspect ratio for your crop – custom, 16:9, 8:10, 5:7, and so on. Select a ratio and the image will be cropped accordingly.

MAKING ADJUSTMENTS

Photos' Adjustments tool is one of its most intriguing features and provides some insight into how its iOS cousin handles the job. The idea behind it is that many people don't want to spend time tweaking their images.

When you click on Adjustments (which Apple terms 'Smart Adjustments') you see three entries – Light, Color and Black & White – that are controlled using 'smart sliders'. To make an adjustment in this view, just click somewhere in the thumbnail image below one of these entries and drag to the left or right. For example,



if your image is too dark, click in the Light tool area and then drag right or left to brighten or darken your image.

Click on the downward pointing triangle next to each control and you'll see a series of other controls for Exposure, Highlights, Shadows, Brightness, Contrast and Black Point. You can adjust each of these individually using their sliders or by clicking in the appropriate field and entering numeric values. So, if the global Light control gets you close, but not quite there, you can dive down a level and tweak as necessary.

And if that's not enough control for you, click the Add button in the edit area and you find such additional options as Histogram, Sharpen, Definition, Noise Reduction, Vignette, White Balance and Levels. Adobe Photoshop (or even Lightroom) it may not be, but if you find iPhoto's editing controls a little underwhelming, you should be far happier with what Photos offers.

ABOUT THE CLOUD

When Photos was first announced a number of people fell into a panic. "Apple can't force me to keep my images in the cloud!" they cried. And they're correct. Apple can't force you to keep your images in the cloud, nor will it attempt to. Using iCloud storage is entirely optional.

If you want to only store your images locally and not have them beamed into the cloud, you can. All you need do is ensure that the iCloud Photo Library option is unchecked in the iCloud preference within Photos.

Or, if you want your images both in the cloud and on your Mac, enable the

Download Original To This Mac option, also within Photos' iCloud preference.


This latter option has advantages. When you edit an image or movie within Photos for OS X or in the updated version of Photos that will ship with iOS 8.2, those edits are automatically synced with all your devices and your iCloud.com account.

And you don't lose anything in transit. Images are stored in their original format and resolution – including raw images.

MOVING FROM IPHOTO/ APERTURE TO PHOTOS

When you install Photos you'll be offered the option to import your iPhoto library. You can also import an Aperture library.

Opening one of these libraries in Photos doesn't duplicate your existing images. You won't find one set of images in an iPhoto library and another in a Photos library. Instead, the apps will look for images within a single library. Additionally, iPhoto and Aperture don't become unusable after you've launched Photos.

iPhoto events and Aperture projects are converted to albums as neither of these items exist in Photos. Metadata including star ratings, flags and colour labels will be transformed into keywords and become searchable in Photos. Other IPTC metadata such as copyright, contact and content data is retained as part of the image, but it's not visible within Photos. Custom metadata fields aren't transferred to Photos. 

– CHRISTOPHER BREEN



Sharp HT-SB602 2.1 Channel Slim Sound Bar

This humongous speaker delivers big value.

The Sharp HT-SB602 is a bruiser of a sound bar. At close to 1.4 metres in width, the soundbar is immediately striking thanks to its lack of a grille covering the drivers.

All six drivers are exposed, giving the speaker an industrial look. Even the side-firing wireless subwoofer is designed with the bass reflex port facing forward, not to the rear, in order to up the ultra-modern look and feel of the system. A helpful LED up front tells you exactly what source you're listening to and what the volume is, sparing you from having to decode random LED patterns.

Whether that fits in with your living room's design motif or not, the audio pumped out by the HT-SB602 undoubtedly will. Although it's just a 2.1 channel system, it packs 310 watts of power (150 watts to the sub), and it sounds like even more.


From gaming to movie effects to music, the Sharp HT-SB602 provided the richest, most immersive audio and overall simply sounded the most accurate and true to life of all the units I have tested by TV manufacturers. Naturally there are going to be some limits when you're dealing with drivers

this small, but Sharp makes the most of them, managing to coax soaring highs and rumbling lows out of the system. Having such a wide soundbar helps, as the speaker placement naturally builds a more immersive sound field.

The HT-SB602 features two HDMI inputs (one cable is included) and an HDMI output for your TV, optical audio input and a 3.5mm input jack. Bluetooth is supported, as are NFC connections. (The NFC reader is located on top of the subwoofer, not the soundbar.) You'll also find in the box an IR blaster to help alleviate any trouble with blocked IR ports on your television. Only the lack of analogue RCA jacks is likely to cause anyone trouble during setup. Dolby Digital and DTS decoding are supported, but not Dolby TrueHD or DTS-HD Master Audio (important for soundtracks you'll find on Blu-ray discs).

If there's any downside to the HT-SB602, it's the remote control. With more than 40 buttons, this monstrosity looks like it's designed to launch Scud missiles, not control a couple of speakers. Some of this feels

like it has to be a joke: Among the seven sound-field modes, do we really need a 'News' setting? And hopefully you know your ARC button from your APC button. Tragically, the user manual – printed on one side of a huge sheet of newsprint and folded up into a square – is functionally useless. That's ultimately a minor concern.

Bottom line. The HT-SB602 is otherwise intuitive, easy to figure out and works great right out of the box. Just program the volume and input buttons into another remote and stash this one away. Your ears will thank you. 

– CHRISTOPHER NULL

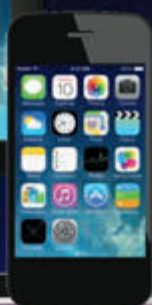


SHARP
www.sharp.net.au

PROS Quality audio; futuristic, industrial design; lots of connectivity options

CONS Too large for many home environments; useless manual; remote control is baffling

\$549

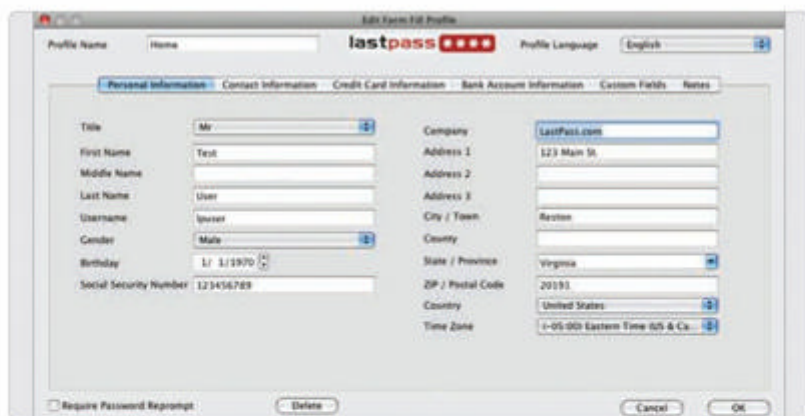


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LastPass

A serious competitor against 1Password on the Mac desktop, but it has a long way to go to achieve true parity.

The release of the free LastPass for Mac puts it head to head with 1Password. And LastPass comes out reasonably well in aspects of the comparison: the two apps carve out different spaces, which will vary in importance depending on users' specific security preferences and access needs. But in most respects, LastPass feels unfinished and clunky – a work in progress that works, but needs more work. The Mac version is free. A \$14.99-per-year subscription adds mobile app synchronisation, second-factor login support and a family-based secure password sharing option.

ACCESS YOUR PASSWORDS ANYWHERE

The central theme of LastPass is accessibility everywhere: your passwords are stored in a local vault on your Mac (or other platforms) and always synced with LastPass's storehouse. This has the advantage that you can log into the LastPass website to access passwords anywhere, and the disadvantage that anyone with your credentials can log into the LastPass website to access your passwords anywhere.

Having direct access with a login increases the 'risk surface', although you can mitigate that with a premium subscription by using one of several

two-factor authentication methods it supports, including Yubikey (a USB key generator) and Google Authenticator, to prevent logins without possession of, or access to, a unique second verification code or device.

The new Mac app feels more like a better extension of the plug-ins than a fully freestanding app, but it gets the job done. The Mac app is primarily the Vault window, a locally synchronised and updated version of the data stored in your LastPass web account. The Vault offers access to site logins, secure notes and 'form fills', the company's term for identities that can contain credit card information, an address and more. But you can't generate passwords on their own in the Vault window, even though you can in the browser plug-ins.

The browser plug-ins are better designed and seem more mature, although they also have a very technical feel and are rather chatty. When logging into a site, the plug-in alerts you about using a stored login, and also displays an overlaid box on the page that says a page is loading, and then that it's loaded and the login data has been submitted.

A LITTLE MORE POLISH, PLEASE

In testing, the app seemed unfortunately unstable. Fine for long

periods, it would sometimes cycle through logins, logging itself out and then, when logged back in, launching the vault window and pushing it foremost in OS X.

The app has the surface feeling of ported software, instead of a native OS X program. This starts with the menu options. After installing, you can launch it, which opens the Vault window, but closing the window removes the app's icon from the Dock. A menu bar item is persistent, from which you can select Vault. Choosing Preferences from the menu or from the Preferences item that appears, and then clicking Cancel bafflingly closes the Vault.

From a security standpoint, after an interval you specify has passed during which the Vault remains unlocked, a master password request appears. However, it comes up without blanking the Vault main display, allowing account names and other information to be viewed, unlike 1Password, which secures the display when the timeout occurs.

Bottom line. LastPass for OS X isn't ready for general use without additional polish, user-interface design and debugging. It does store and fill in site logins as promised, but unless you need its web-based access or already use LastPass via plug-ins or mobile apps, I cannot recommend its use yet.

– GLENN FLEISHMAN



PROS Password Vault is available everywhere via website; offers better integration into browser fields

CONS Clunky interface that behaves inconsistently and is un-Mac-like; no way to create local-only password Vault; crashes and unstable behaviour during testing

FREE; \$14.99 SUBSCRIPTION



Garmin Vivosmart

Fitness tracking and notifications for less.

The Vivosmart is first and foremost a fitness tracker, keeping tabs on your activity by covering the number of steps you take, steps remaining to your daily goal, distance covered, calories burned and time spent inactive.

The Vivosmart looks like a traditional fitness band too, a slim, soft rubberised band with smooth, rounded edges. I easily slept while wearing the Vivosmart – it's unobtrusive and extremely comfortable, and I usually forgot I was wearing it. I've worn it pretty much nonstop for several weeks and have never found it bothersome, even when typing on my laptop, which is what led me to stop wearing watches years ago.

The Vivosmart is waterproof up to 50 metres, so you can wear it while swimming or in the shower.

Battery life is impressive: Garmin says the Vivosmart lasts up to seven days on a charge, and I easily surpassed that throughout my testing. It uses a proprietary USB charger that clamps onto the device like a

clothespin, aligning with charging leads on the inside of the band.

The Vivosmart's LED display is completely invisible when not in use, and it's clear and bright when on, even in daylight. A simple double-tap wakes the display; you navigate through the device's menus by swiping and tapping. In addition to fitness-related information, the Vivosmart shows you the time and date, and even lets you control the music on your iPhone: play/pause, skip, or repeat tracks. But you can't adjust the volume.

Lift the Vivosmart when you get a notification and you immediately realise the display is oriented sideways as you look at it. Given the device's shape, there's really no other way it could be, but it does make it somewhat awkward to read anything longer than the time.


Once you've paired the Vivosmart to your iPhone or Android device via Bluetooth, a companion app descriptively called 'Connect' transfers your fitness data from the Vivosmart and displays it as gauges in sections

for each type of measurement. The app also pairs with the MyFitnessPal app to keep track of how many calories you've consumed, measured against the Vivosmart's estimate of how many you've burned.

Even without the app, the Vivosmart provides plenty of feedback. In addition to displaying your activity, the device sets a daily step goal for you and adjusts it each day based on your previous day's activity.

As its name implies, the Vivosmart is more than just a fitness band, venturing into smartwatch territory with some very handy features. If it senses you've been inactive for an hour, an unmistakable vibration and the band's display will tell you in no uncertain terms to "MOVE!" A few minutes of walking resets the timer.

The Vivosmart also uses its Bluetooth connection to your phone to provide notifications – anything that appears on your phone's Notification screen will also pop up on the Vivosmart's display, along with a short vibration to get your attention. You can't interact with the notifications; that is, you can't reply to emails or texts (or even delete them, for that matter) but you can scroll through them and decide whether they merit immediate action.

Bottom line. The Vivosmart is a well-made, comfortable and tremendously useful fitness band with smart features that take great advantage of being paired to your iPhone. 

– CHUCK LA TOURNOUS



GARMIN

www.garmin.com/en-au

PROS Comfortable design; super long battery life; well-implemented activity tracking and notifications

CONS Companion app doesn't provide much value; text orientation makes longer notifications awkward to read

\$199; \$229 (WITH HEART RATE MONITOR)



Bang & Olufsen BeoPlay A2 portable speaker

A great-looking speaker that doesn't compromise on sound quality, Bang & Olufsen's BeoPlay A2 is more than just a pretty face.

There are no two ways about it – the BeoPlay A2 is marketed as an expensive fashion accessory for well-to-do hipsters. The stylish design comes in elegant green, pitch black or cool grey – with premium full-grain leather straps – and it's even shaped like a purse or man-bag to slip under your arm.

What looks like an aluminium grille is actually high-grade polycarbonate, wrapped around a metallic frame. It's designed to stand upright, with all of the buttons and connectors hidden away on the central metallic strip to preserve the design's elegant lines. The speaker tips the scales at 1.1kg, so you wouldn't want to carry it by the strap all day, but it slips easily into a travel bag.

Thankfully the BeoPlay A2 doesn't put form over function; it actually sounds as good as it looks. The secret is an omnidirectional design that offers a wide sound stage to fill a large area. Inside are digital Class D amplifiers that power two 3in full-range drivers, two 3/4in tweeters and two 3in passive bass radiators – one set on each side of the unit.

Along with the standard 3.5in analogue line-in, you can play music through the BeoPlay A2 via Bluetooth 4.0 aptX wireless streaming, but there's no NFC for fast pairing.

Look closer and you'll also find a full-sized USB port, but it's only for charging your music player when


you're on the road. The remarkable 24-hour battery life means that the BeoPlay A2 can spare some juice to help keep your other gadgets running. Unfortunately, you can't use the USB port as a digital line-in, which is disappointing at this price range considering it's a feature of the competing \$399 BenQ treVolo portable electrostatic speaker (reviewed in *Macworld Australia's* March 2015 issue) that also prides itself on sound quality.

The BeoPlay A2 is bigger than your average portable Bluetooth speaker, with a footprint slightly narrower than an iPad. Even so, it's only 45mm thick and you're entitled to set your expectations low in terms of sound quality – but the omnidirectional design and array of speaker cones certainly make their presence felt. They deliver full, rich bass that isn't overpowering, combined with mid-range clarity and a slightly brash high-end.

The speaker is loud enough to cater to an indoor or outdoor soirée, although you wouldn't rely on it to underwrite a serious dance party. There's slight distortion once you crank up the volume, but it's not a deal-breaker once you get outside, step back a little way and mingle with your guests.

Audiophiles may be disappointed that you can't adjust the sound profile. Others may be frustrated

at the lack of built-in Wi-Fi, DLNA (Digital Living Network Alliance) or AirPlay support. Not that you'd need all these extra features in a portable speaker designed for the road, but the BeoPlay A2 is actually more expensive than the Pure Jongo A3 portable speaker, which offers Bluetooth and Wi-Fi with the bonus of synchronised multi-room audio. If you're looking for a high-quality portable speaker that will spend more time in your outdoor entertaining area than away from home, you need to weigh up the BeoPlay A2 against the alternatives.

Bottom line. Bang & Olufsen's BeoPlay A2 portable speaker looks and sounds great, as it should when you're buying a premium speaker with such a hefty price tag. For this kind of money, you're entitled to expect more in terms of connectivity, but what you see is what you get. If you have an eye for fashion, an ear for detail and a credit card that's willing, then the BeoPlay A2 may be right for you. 

– ADAM TURNER



BANG & OLUFSEN
www.bang-olufsen.com

PROS Stylish; excellent sound quality; long battery life

CONS Expensive; limited connectivity options

\$479

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